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LIBERIA MUNICIPAL WATER PROJECT (LMWP)

YEAR 5 ANNUAL REPORT (OCT 2015 – OCT 2016)
QUARTERLY REPORT 4 (JUL 2016 – OCT 2016)



FEBRUARY 2017

This publication was produced for review by the United States Agency for International Development. It was prepared by Tetra Tech.

This report was prepared for the United States Agency for International Development, USAID Contract No. EDH-I-00-08-00027, Task Order # AID-669-TO-11-00002, under the Global Architecture and Engineering Indefinite Quantity Contract (IQC).

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Cover Image: On May 27th 2016, the USAID/Liberia Municipal Water Project (LMWP) hosted a groundbreaking ceremony for the US \$26.5M Capital Improvement Project (CIP) that will provide clean piped water to three county capital cities (Robertsport, Voinjama, and Sanniquellie) for the first time in decades. Dignitaries included (from right to left holding shovels): USAID/Liberia Mission Director, Dr. Anthony Chan; Liberia Water and Sewer Corporation Managing Director, Hun-Bu Tulay; and Hon. Mary Nya Gonlepa, Mayor of Sanniquellie.

All photos in this report are by Tetra Tech unless otherwise indicated.

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS AND ABBREVIATIONS

| | |
|-----------|--|
| AfDB | African Development Bank |
| BOQ | Bill of Quantities |
| CAD | Computer Aided Design (Software) |
| CAO | Communication and Outreach |
| CBO | Community-Based Organization |
| CHF | CHF International (Now Global Communities) |
| CIP | Capital Improvement Project |
| COP | Chief of Party |
| COR | Contracting Officer's Representative |
| DCOP | Deputy Chief of Party |
| DMD-TS | Deputy Managing Director for Technical Services |
| EGC | Earth Geological Consultants Inc. |
| EMMP | Environmental Monitoring and Mitigation Plan |
| EOI | Expression of Interest |
| EPA | Environmental Protection Agency (Liberia) |
| ePORT | electronic Program Observation Reporting and Tracking |
| ESIA | Environmental and Social Impact Assessment |
| EWG | Engineering Working Group |
| FACTS | Foreign Assistance Coordination and Tracking System |
| FARA | Fixed Amount Reimbursable Agreement |
| GEMS | USAID Governance and Economic Management Support Program |
| GIS | Geographic Information System |
| GoAL WASH | Governance Advocacy and Leadership for Water, Sanitation and Hygiene |
| GoL | Government of Liberia |
| HCC | Host Country Contracting |
| HO | Head Office (LWSC) or Home Office (Tetra Tech) |
| HR | Human Resources |
| IDAMC | Internally Delegated Area Management Contract |
| IEE | Initial Environmental Examination |
| IIU | Infrastructure Implementation Unit |
| ISR | Institutional Strengthening and Reform |
| IWASH | USAID/Liberia Water, Sanitation, and Hygiene Project |
| LD | Liberian Dollars |
| LHS | Liberian Hydrological Service |
| LISGIS | Liberia Institute of Statistics and Geo-Information Services |
| L-MEP | USAID/Liberia Monitoring and Evaluation Program |
| LMWP | USAID/Liberia Municipal Water Project |
| lpcd | liters per capita per day |
| LSC | Local Steering Committee |
| LWSC | Liberia Water and Sewer Corporation |
| M&E | Monitoring and Evaluation |
| MD | Managing Director |

| | |
|--------|--|
| MLME | Ministry of Lands, Mines and Energy |
| MoE | Liberia Ministry of Education |
| MoF | Liberia Ministry of Finance |
| MoHSW | Liberia Ministry of Health and Social Welfare |
| MoPEA | Ministry of Planning & Economic Affairs |
| MoPW | Ministry of Public Works |
| MOU | Memorandum of Understanding |
| MT | Medium Term |
| NGO | Nongovernmental Organization |
| NRM | Natural Resources Management |
| NSDS | National Strategy for the Development of Statistics |
| NWRSB | National Water Resources and Sanitation Board |
| NWSHPC | National Water, Sanitation and Hygiene Promotion Committee |
| O&M | Operation and Maintenance |
| OIC | Officer in Charge |
| OJT | On-the-Job Training |
| OMT | Outstation Management Team |
| PAG | Project Advisory Group |
| PMP | Performance Monitoring Plan |
| PMT | Project Management Team |
| PMU | Project Management Unit |
| PPCC | Liberian Public Procurement and Concessions Commission |
| PSI | Population Services International |
| QA/QC | Quality Assurance/Quality Control |
| QIP | Quick Impact Project |
| QSIP | Quality Service Improvement Program |
| RF | Results Framework |
| RFI | Request for Information |
| RFP | Request for Proposals |
| RFQ | Request for Quotations |
| RFTOP | Request for Task Order Proposal |
| SA | Situational Analysis |
| SIDA | Swedish International Development Cooperation Agency |
| SOP | Standard Operating Procedure |
| ST | Short Term |
| STA/M | Senior Technical Advisor/Manager |
| STTA | Short-Term Technical Assistance |
| SUWASA | USAID Sustainable Water and Sanitation in Africa |
| TOR | Terms of Reference |
| TWG | Transition Working Group |
| UNDP | United Nations Development Programme |
| UNMIL | United Nations Mission in Liberia |
| USAID | United States Agency for International Development |
| USG | United States Government |
| UWSSP | Urban Water Supply and Sanitation Program (AfDB) |
| WASH | Water, Sanitation and Hygiene |
| WHO | World Health Organization |
| WSE | Water Supply Engineer |
| WSP | World Bank Water and Sanitation Program |
| WSSC | Water Supply & Sanitation Commission |
| WTP | Water Treatment Plant |

1.0 INTRODUCTION

The Liberia Municipal Water Project (LMWP), funded by the United States Agency for International Development (USAID), included a four-year base period (FY2011-FY2015) and was extended through October 2016 by USAID which exercised an Option Year and 1-month No Cost Extension. LMWP supported the design, tendering, execution and operation of water supply infrastructure improvements in the target cities of Robertsport, Sanniquellie, and Voinjama in Liberia. The project assisted local and national authorities in developing plans for urban water supply and sanitation improvements, implementing water supply infrastructure improvements, and re-establishing local capability to sustainably operate and maintain the water supply improvements. The goal of LMWP was to help establish improved water supply access in each city, with infrastructure managed by locally-based entities capable of financially and technically sustaining the service. The improved water systems will provide public health and economic development benefits in the three target cities. The project coordinated with the Government of Liberia (GoL) through the Liberia Water and Sewer Corporation (LWSC), Ministry of Lands, Mines and Energy (MLME), Ministry of Public Works (MoPW) and other ministries, agencies, and county and local authorities.

Tetra Tech and subcontractors implemented LMWP under USAID Contract No. EDH-I-00-08-00027 - Task Order # AID-669-TO-11-00002. This Year 5 Annual Report (and 4th Quarterly Report) summarizes the activities and tasks completed during the 13-month project period from October 1, 2015 through October 31, 2016.

2.0 EXECUTIVE SUMMARY OF YEAR 5 ACCOMPLISHMENTS

2.1 HIGHLIGHTS OF KEY ACCOMPLISHMENTS DURING YEAR 5

2.1.1 TECHNICAL ACCOMPLISHMENTS

Selected highlights of LMWP achievements this year include the following, by remaining project task:

Task 4: Capital Works

- Attended the Capital Improvement Project (CIP) post-award conference and introduced the CIP construction Contractor, United Infrastructure Projects (UIP), to LWSC.
- Led kickoff meetings in Robertsport, Voinjama and Sanniquellie to introduce UIP to the local authorities and Local Steering Committees (LSC) and handover the site to the Contractor.
- Conducted the preconstruction meeting with UIP and USAID to establish lines of communication, understand project expectations and discuss technical and managerial tasks related to the proposed work.
- Reviewed and commented on early contract deliverables and shop drawings submitted by UIP.
- Conducted QA workshop for LMWP engineers to prepare the team for its role as Quality Assurance Contractor (QAC).
- Coordination with other projects, including the road project in Sanniquellie, the active railroad in Sanniquellie, the World Bank fish landing site in Robertsport, and a site visit to Kakata to observe construction progress under the AfDB project and discuss lessons learned.
- Planned and completed the CIP groundbreaking ceremony in Sanniquellie on May 27, 2016 with USAID and Local Steering Committees (LSCs).
- Led regular bi-weekly construction management meetings with the CIP construction Contractor (UIP) and USAID in Monrovia and with the Resident Engineers and Contractor's representatives in the field.
- Finalized hiring and mobilized two Resident Engineers to directly oversee construction activities in Sanniquellie and Voinjama.
- Provided construction contractor with responses to RFIs, clarifications and documented field work completed.
- Continued to support LWSC in finalizing the issuance of land deeds for properties where the public kiosks will be constructed. Land attestations were received for all private land where a Capital Improvement Project (CIP) kiosk is proposed.

- Supported USAID in addressing CIP bidders' questions on the Request for Task Order Proposal (RFTOP).
- Drafted Sanitation Master Plans for Robertsport, Sanniquellie and Voinjama.
- With LWSC, conducted a private water connection survey in the three cities to gauge local residents and businesses interest and willingness to pay for private water connections.

Task 5: Transitional Management of Water Supply Improvements

- LWSC, LMWP and the Robertsport Local Steering Committee jointly facilitated the Monthly Sustainability Monitoring exercises and reporting throughout the year as well as Operator Bi-Annual Audits.
- Provided continued direct technical assistance to LWSC in the interim operation, maintenance, and management of the Robertsport Outstation. The system has increased its operating ratio (cost recovery) from 21% during the first full year of operation (FY14) to 67% in FY16. Collection efficiency has remained around 100%. Due to improvements in infrastructure and metering, non-revenue water has been less than 5% since the pipeline extension was completed.
- Conducted daily residual and total chlorine analysis at the Robertsport Water Treatment Plant and kiosks in the distribution system in fulfillment of the requirements of the LMWP's USAID/Liberia and Liberia Environmental Protection Agency (EPA)-approved Environmental Mitigation and Monitoring Plan (EMMP).
- LMWP supported LWSC (in tandem with IWA) to establish a functioning water quality unit which is capable of conducting daily testing in Monrovia and Outstations.
- Finalized the report of the Household Survey conducted in Robertsport in August 2015 to gauge the impact of the newly opened kiosks, gather feedback on current operations and suggestions for improvement, and measure the performance of the LMWP with regards to the project indicators.
- Finalized the recruitment/hiring for a seconded M&E Specialist with LWSC to support management of LWSC performance indicators.
- The M&E specialist successfully worked with LWSC to establish a working M&E Unit and develop a draft Monitoring Framework and Standard Operating Procedures (SOPs) for the organization. The M&E Specialist drafted Performance Contract report and shared it with LWSC management, and supported LWSC to finalize the draft PIRS for the indicators and gather and analyze performance data.
- LMWP supported LWSC in developing a draft individual piped connections policy focused on potential customers for the CIP. Surveys were also conducted in each city to identify potential residential and commercial candidates for individual connections.
- Supported LWSC in finalizing a Cost-of-Service analysis and modeling for the mini-systems in Sanniquellie and Voinjama.
- Supported LWSC to draft local business plans for each of the project cities laying out performance targets to work towards financial sustainability.
- Developed draft O&M manuals for the mini-systems in Sanniquellie and Voinjama and supported planning for the kiosk opening.

Task 6: Capacity Building

- Selected trainings/workshops conducted this year included:
 - Quality Service Improvement Program (QSIP) for LWSC Management
 - Kiosks Operations, Maintenance, and Financial Management Training (Robertsport and Kakata) (LWSC).
 - Water Quality Management: Basic Analysis and Quality control Refresher - Robertsport; and
 - Construction Management - Environmental Compliance
 - Business Planning and Sustainability Monitoring Training
 - Asset Management Training
- Facilitated the LMWP Chief of Party (COP) and LWSC Deputy Managing Director Technical Services (DMD TS) attendance at the International Water Association (IWA) and United States Environmental Protection Agency (USEPA)-sponsored workshop on developing Water and Sanitation Safety Plans in Accra, Ghana. LMWP supported the DMD-TS to prepare a presentation at the conference and draft a template Water Safety Plan for LWSC.
- Facilitated the development of the Sales and Marketing Strategy thru the Quality Service Improvement Program.
- COP and MD LWSC jointly attended the Africa Utility Leaders Forum hosted by the Uganda National Water and Sewerage Corporation (NWSC) from 27-30th June 2016 and subsequent tours of NWSC facilities and meetings with staff regarding future cooperation.
- Developed training modules and training topics for the LWSC Field Engineers (Construction Site Engineers for the Project Cities); and LMWP received USAID's approval for payment of daily subsistence allowance (DSA) for the LWSC Field Engineers.
- Although significant capacity building activities took place this year, implementation according to plan was hampered in Year 5 due to a number of reasons including: LWSC restructuring and replacement of the entire senior management team; delayed initiation of pilot OMC in Robertsport; and most importantly, LWSC's request in late November for LMWP to put its capacity building program on hold to avoid overlap with a new AfDB-funded project called 'Institutional Support - Management, Commercialization, and Training (MCT)' until finalization of the MCT inception report to permit coordination and leveraging of resources. LMWP did not receive the draft report until April 2016 and a subsequent iteration was not provided until July 2016. LMWP did not receive a final inception report.

Task 7 - Coordination with Other USAID (and other donor) Programs

- Continued coordination and cooperation with the African Development Bank (AfDB) Urban Water Supply and Sanitation Program (UWSSP) on capacity building, institutional arrangements, and construction management.
- With LWSC, reviewed the planned Scope of Work for the new AfDB-funded MCT Program expected to begin in 2016. LMWP plans to coordinate closely with MCT to ensure complementarity, including modification of the planned capacity building program.
- Coordinated with USAID and Global Communities to receive three (3) pickup trucks that were transferred to LMWP. The vehicles require repairs to get them into suitable working order for LMWP.

- Continued to attend the monthly meetings of the National Water and Hygiene Promotion Committee
- Attended USAID Implementing Partners' Meetings.
- Continued coordination with World Bank fish processing center project in Robertsport.

Task 8 – Planning and Reporting

Task 8 included overall project administrative and deliverable preparations. LMWP attended regular COR meetings at USAID, coordinating and communicating project progress, constraints and planned activities. LMWP completed all technical and administrative contract deliverables including Quarterly Reports, monthly construction reports and others as listed in Section 4.

3.0 UPDATES ON Q4 PLANNED ACTIVITIES AND STATUS OF CONTRACTED TASKS

3.1 QUARTER 4 PLANNED ACTIVITIES UPDATES

Table 3.1 presents the activities that were planned for project Year 4 Quarter 4 and their current status.

TABLE 3.1. LMWP QUARTER 4 ACTIVITIES SUMMARY

| Activity | Sub-Activities and Timeline | Status |
|--|---|--|
| TASK 4: Capital Works | | |
| Mini System Construction | <ul style="list-style-type: none"> Monitor mini system construction process (Jul-Sep) The contractor completes the mini systems on September 16, 2106 | <ul style="list-style-type: none"> Complete; Mini-Systems began operation in October, but solar panels to be installed under LMWP II |
| Daily Construction Observation | <ul style="list-style-type: none"> Oversee the quality of workmanship and materials and equipment utilized on the project. Provide "No objection" to acceptable tasks and "Reject" unacceptable work and materials (Jul-Sep) Complete internal daily reports and external weekly and monthly reports (Jul-Sep) | <ul style="list-style-type: none"> Complete |
| Shop drawing review | <ul style="list-style-type: none"> Provide timely and detailed review of shop drawing and submittals submitted by the contractor (Jul-Sep) | <ul style="list-style-type: none"> Complete |
| RFI responses | <ul style="list-style-type: none"> Provide timely responses to technical design related inquiries from the Contractor (Jul-Sep) | <ul style="list-style-type: none"> Complete |
| Progress payments and cost control | <ul style="list-style-type: none"> Monitor Contractor performance per the scope to control extra costs and re-measure work completed (Jul-Sep) Review monthly progress payments (Jul-Sep) | <ul style="list-style-type: none"> Complete |
| Schedule | <ul style="list-style-type: none"> Monitor Contractor performance per the schedule and notify of slippage (Jul-Sep). Review and monitor detailed weekly 4-week schedule projections, comparing planned versus actual start and end dates for specified activities (Jul-Sep) The contractor extends the Robertsport pipeline to the Fish Processing Center by September 16, 2016. | <ul style="list-style-type: none"> Complete |
| Contract Administration | <ul style="list-style-type: none"> Support USAID COR and CO on overall contract administration (Jul-Sep) | <ul style="list-style-type: none"> Complete |
| Engineering Interns | <ul style="list-style-type: none"> Provide on the job training and experience for engineering interns in the three cities (Jul – Sep) | <ul style="list-style-type: none"> Complete |
| Planning for household connections | <ul style="list-style-type: none"> Coordinate with LWSC on household connection plan during the construction phase (Apr - Jun) Conduct private household connection survey (May) | <ul style="list-style-type: none"> Complete |
| Transition to LMWP 2 or de-mobilize from field offices | <ul style="list-style-type: none"> Start close-out and draw down plan for field offices (Aug) Demobilization of the resident engineers (mid-Sep) Close field offices (Sep) | <ul style="list-style-type: none"> N/A (LMWP II awarded to incumbent) |
| TASK 5 – Transitional Management | | |
| Support LWSC in the Establishment of a M&E Unit | <ul style="list-style-type: none"> Develop & Finalize M&E Unit Framework and SOPs for Internal KPIs for Management and LWSC Units Work with NWSC and LWSC to finalize technical assistance support for M&E Unit Monitor and report on PC and OMC | <ul style="list-style-type: none"> M&E Unit framework finalized; SOPs pending. NWSC support to be explored under LMWP II |

| Activity | Sub-Activities and Timeline | Status |
|---|---|---|
| | | <ul style="list-style-type: none"> Monitoring and report on PC completed; OMC not implemented. |
| Sales and Marketing Support (QSIP) | <ul style="list-style-type: none"> Implementation of Behavior Change, Communications Social Marketing Strategy Assist in Implementation of Sales and Marketing Strategy, Training and Plans of Action (QSIP) | <ul style="list-style-type: none"> Delayed in relation to the delay of the OMC implementation. |
| Follow-up QSIP action plans. | <ul style="list-style-type: none"> Work with LWSC and USAID to finalize implementation plan | <ul style="list-style-type: none"> Delayed in relation to the delay of the OMC implementation. |
| TASK 6 – Capacity Building (Conduct of the following will be pending meeting and finalization with MCT Team) | | |
| Off-site Training in governance for BoD and Senior management with twinning arrangement with NWSC | <ul style="list-style-type: none"> Explore further with LWSC and USAID; and the MCT | <ul style="list-style-type: none"> To be conducted in LMWP II |
| Water Operators Partnership (WOP) / Twinning Relationship with regional utility for LWSC senior staff | <ul style="list-style-type: none"> Implement twinning MOU with NWSC (Uganda) after finalization with MCT team. Explore further with the MCT Training Workshops | <ul style="list-style-type: none"> To be conducted in LMWP II |
| Local Contractors - Training in Service (Contract) Procurement / Management Skills | <ul style="list-style-type: none"> Work with LWSC, LSCs and USAID to finalize training plan <ul style="list-style-type: none"> Prepare itinerary and schedule Host and conduct Training | <ul style="list-style-type: none"> Removed from the work plan when USAID went with international contractor per COP and USAID. |
| LMWP/LWSC seconded field engineers in construction management; Environmental Compliance Part II | | <ul style="list-style-type: none"> Complete |
| Training in Business Plan development and Implementation, O&M, HSE, Financial Guidelines, OMC, etc. for Engineering Firms (local) for Private Water Utility Operator (TO BE DETERMINED) | | <ul style="list-style-type: none"> To be conducted in LMWP II (contingent on EOI to identify operators which has not yet been issued) |
| On the job training for interns and engineering staff | | <ul style="list-style-type: none"> Complete – ongoing on the job training throughout LMWP I |
| <ul style="list-style-type: none"> OMC Implementation Training Phase II (monitoring, reporting, performance evaluation) – Sanniquellie and Voinjama Outstation Water Quality Management: Basic analysis and quality control Refresher(Sanniquellie and Voinjama) Customer Care Training (communications, outreach/community relations, marketing, gender considerations, quality of service) - Sanniquellie and Voinjama M&E and ePORT system2 Refresher Training on Updating of the Cost of Service (COS) Model Business Plan Development Training Sustainability Monitoring Training Kiosks(CIP) Operations and Maintenance, and Finance Management Training (Voinjama and Sanniquellie) Communication / Outreach (BCC) Awareness and Social Marketing – Safe Water; Gender | <ul style="list-style-type: none"> Work with LWSC, LSCs and USAID to finalize training plan Prepare itinerary and schedule Host and conduct Training Explore further with the MCT | <ul style="list-style-type: none"> Outstation Water Quality- Complete Business Plan and Sustainability Monitoring Training - complete Kiosks(CIP) Operations - complete Communication / Outreach activities – complete 2016 HH Survey Training – complete Service connection survey training – Complete CIP Technical drawings and specs training - Complete Quality assurance training – Complete. OMC and related training are awaiting implementation of the OMC. |

| Activity | Sub-Activities and Timeline | Status |
|---|---|---|
| mainstreaming Training (Sanniquellie and Voinjama) <ul style="list-style-type: none"> Health, safety and environment in water facilities (Sanniquellie and Voinjama) Outstation budgeting, accounting, and financial management | | |
| <ul style="list-style-type: none"> Asset Management Software Training for Small Systems Small Water Utility Management and Best Practices | | <ul style="list-style-type: none"> Complete |
| Support the LSC Quarterly Work Plan Implementation | <ul style="list-style-type: none"> Work with the LSC to implement plan <ul style="list-style-type: none"> Finalize revised plan and budget Facilitate the implementation | <ul style="list-style-type: none"> Completed September 2016 as part of outreach activities. To be continued under LMWP II |
| Support the LWSC/LSC Charter Implementation - Set of Work plan Development and Implementation | <ul style="list-style-type: none"> Work with LWSC, LSCs and USAID to finalize workshop <ul style="list-style-type: none"> Prepare itinerary and schedule Host and conduct workshop Implement Charter Work plan Explore further with the MCT | <ul style="list-style-type: none"> To be conducted in LMWP II |
| Planning and Reporting | | |
| Quarterly Reporting | <ul style="list-style-type: none"> Financial Reporting Progress Report and Procurement Plan update Monthly Construction and Weekly Reports | <ul style="list-style-type: none"> Complete |
| Household Level Survey in Voinjama and Sanniquellie | <ul style="list-style-type: none"> Timing TBD based on CIP | <ul style="list-style-type: none"> Complete |

3.2. STATUS OF CONTRACTED TASKS

Following is the list and status of each of the eight Tetra Tech contracted tasks.

TABLE 3.2. STATUS OF CONTRACTED TASKS

| No. | TASK | STATUS |
|-----|--|-------------------------------|
| 1 | Situational Analysis | Completed |
| 2 | Plans for Staged Water Supply and Sanitation Infrastructure Improvements | Completed |
| 3 | Institutional Framework for Water Provision | Completed |
| 4 | Capital Works | To Be Continued Under LMWP II |
| 5 | Transitional Management of Water Supply Improvements | To Be Continued Under LMWP II |
| 6 | Capacity Building | To Be Continued Under LMWP II |
| 7 | Coordination with Other USAID Programs | To Be Continued Under LMWP II |
| 8 | Planning and Reporting | To Be Continued Under LMWP II |

4.0 UPDATED STATUS OF CONTRACT DELIVERABLES

| Deliverable(s) per Contract Sec. F.3 <i>(Contract Mod No. 003, January 2015)</i> | | Submission(s) |
|--|---|---|
| Task 1: Situational Analysis | | |
| 1.1 | Desk Study, Initial/Protocol Visit, and Scoping Visits | Desk Study - January 3, 2012 Initial/Protocol Visit & Scoping Visits - Debrief presentation by field team at USAID/Liberia on Dec 20, 2011. |
| 1.2 | Debriefs from Situational Analysis Visits | March 8, 2012 (Debrief PowerPoint Presentation to USAID) |
| 1.3 | Situational Analysis Interim Report | February 9, 2012 |
| 1.4 | Situational Analysis Final Report | May 15, 2012, Rev. Nov 2012 |
| Task 2: Plans for Staged Water Supply and Sanitation Infrastructure Improvements | | |
| 2.1 | National and Local Stakeholder Participatory Consultation Reports | December 21, 2012 |
| 2.2(a) | Master Plan for Robertsport | August 31, 2012 |
| 2.2(b) | Master Plan for Sanniquellie | November 15, 2012 |
| 2.2(c) | Master Plan for Voinjama | December 15, 2012 |
| Task 3: Institutional Framework for Water Provision | | |
| 3.1 | Report on Transition Work Group Workshop 1 - Framework Options Selected for Analysis | June 8, 2012 |
| 3.2 | Report on Assessment of Framework Options, Draft Memoranda of Understanding (MOU) | July 11, 2012 |
| 3.3 | Report on TWG Workshop 2 - Selected Institutional and MOU Frameworks | October 29, 2012 |
| 3.4 | Signed MOUs documenting Agreed-To Frameworks LWSC/TT MOU LWSC/Cities | LWSC/TT - June 27, 2013; LWSC/cities MOU - March 20, 2014 (Robertsport); July 23, 2014 (Sanniquellie & Voinjama) |
| Task 4: Capital Works | | |
| 4.1 | Preliminary Design | Short-Term (Mini-Systems) - September 30, 2013 Medium-Term (CIP) - September 30, 2013 |
| 4.2 | Final Design | Short-Term (Mini-Systems) - February 10, 2014 ("Issued for Bid") Medium-Term (CIP) - February 6, 2014 ("Issued for Bid"); resubmitted July 7, 2014 |
| 4.3 | Draft Tender Documents | Draft tender documents submitted February 2013; Draft CIP-specific tender documents submitted September 30, 2014. |
| 4.4 | Field Construction Reports | Field Construction Reports were submitted for each month from January 2014 through September 2016 except March 2015-April 2016 when no construction took place (after completion of Robertsport Pipeline Extension, before start of CIP). Report for Oct 2016 onward will be under LMWP II. |
| 4.5 | Final Acceptance | Robertsport Pipeline Extension Substantial Completion issued Jan 20, 2015, and Final Acceptance (after warranty period) issued 6/17/2015. |
| Task 5: Transitional Management of Water Supply Improvements | | |
| 5.1 | Local Management Entity (LME) Business Plans | Robertsport - August 27, 2014 (Pipeline Extension) Sanniquellie & Voinjama - July 1, 2016 (Mini Systems) |
| 5.2 | Sustainability Monitoring Plan (Financial and Operational) | April 15, 2014; Revised April 25, 2014 |
| 5.3 | Reports from monthly Feedback/Evaluation Meetings Monthly | Sustainability Monitoring / Feedback and Evaluation Reports were submitted for each month from June 2014 through September 2016. October 2016 and onwards will be submitted as part of LMWP II. |
| 5.4 | Sustainability Monitoring Reports (includes M&E data and roll up from feedback/evaluation meetings) Monthly | |
| 5.5 | Operator Audit Reports Biannually | Operator Audit Reports were submitted biannually (Oct 2014, Apr 2015, Oct 2015, Apr 2016). October 2016 and onwards will be submitted as part of LMWP II. |
| 5.6 | Additional Transitional Management activities in Quarterly and Annual Reports | N/A |
| Task 6: Capacity Building | | |
| 6.1 | Communications and Outreach Plan | January 26, 2012 |

| | | |
|---|--|--|
| 6.2 | Initial Capacity Building Plan (GOL focused) | July 11, 2012 |
| 6.3 | Final Capacity Building Plan, corresponding with MOUs | April 17, 2014 |
| 6.4 | Capacity Certification Report for FAA 611(e) | LMWP provided suggested text to USAID in December 10, 2013. USAID drafted the final language ultimately approved in July 2014. |
| 6.5 | <i>Additional Capacity Building activities reporting in Quarterly and Annual Reports</i> | N/A |
| Task 7: Coordination with other USAID Programs | | |
| 7.1 | Coordination Report Coordination Meetings Quarterly, or as needed Additional Coordination activities reporting in Quarterly and Annual Reports | Coordination Report - December 23, 2011 Coordination meetings listed in quarterly reports |
| 7.2 | Coordination Meetings | Coordination meetings listed in quarterly reports |
| 7.3 | <i>Additional Coordination activities reporting in Quarterly and Annual Reports</i> | N/A |
| Task 8: Planning and Reporting | | |
| 8.1 | Draft First Annual Work Plan, IEE | First Annual Work Plan - 1/3/2012 (Rev. 2/10/2012, 5/3/2012) IEE - 12/30/2011 (Revised 6/1/2012) EMMP - August 2013 PMP - 12/23/2011 (Rev. Apr 30, 2012; Aug 24, 2012; Mar 14, 2013; Jun 21, 2013; Oct 15, 2013; Mar 11, 2014; Aug 30, 2014; Apr 30 2015) |
| 8.2(a) | Second Annual Work Plan & Procurement Plan | Year 2: Implementation Schedule - August 31, 2012; Full Work Plan - April 4, 2013; Revised Work Plan - June 28, 2013 |
| 8.2(b) | Subsequent Annual Work Plans & Procurement Plan | Year 3: August 31, 2013; Revised February 26, 2014; Revised March 27, 2014 Year 4: September 19, 2014 (USAID granted extension for LWSC vetting); Revised 12/10/2014 incorporating USAID comments; Year 5 (OY1): September 1, 2015; Revised March 10, 2016 per USAID comments |
| 8.3 | Progress Meetings | USAID meetings with the COR typically held weekly based on COR availability |
| 8.4(a) | First Annual Progress Report (and 4th Q rept.) | Quarterly and/or Annual Progress Reports were submitted for each quarter and year. |
| 8.4(b) | Quarterly and Annual Progress Reports | |
| 8.5 | Quarterly Financial Reports | Accruals reports were provided each quarter prior to close, then Financial Reports were included in Quarterly Progress Reports referenced above. |
| 8.6 | Other Special Reports | Other special reports are referenced in Quarterly and Annual reports. |
| 8.7 | Final Report | Draft submitted Aug 30, 2016, Revised December 2016. |

5.0 YEAR 5 INDIATOR RESULTS¹

| Indicator | Report Freq. | Baseline | Target Y1 (FY12) | Actual Y1 (FY12) | Target Y2 (FY13) | Actual Y2 (FY13) | Target Y3 (FY14) | Actual Y3 (FY14) | Target Y4 (FY15) | Actual Y4 (FY15) | Target Y5 (FY16) | Actual Y5 (FY16) | Comments |
|---|--------------|--|------------------|----------------------------------|------------------|------------------|-------------------------------------|------------------------------------|-------------------------------------|-----------------------------------|---------------------------------------|-----------------------------------|--|
| 1. Percent of population using an improved drinking water source | Ann. | R: 3% V: 21% S: 34% T=25% (avg. weighted by population) | N/A | R:3% V: N/A S:N/A T: 3% | N/A | N/A | R:19% V:N/A S:N/A T: 19% | R:14% V:21% S:34% T=26% | R: 60% V:N/A S:N/A T: 60% | R:53% V:N/A S:N/A T:53% | R: 60% V: 26% S: 40% T:37% | R:47% V:43% S:58% T:51% | Custom indicator including field verification and considers source seasonality and round trip travel time, but does not consider water quality. |
| 1.1 Percent of the population using an improved drinking water source which provides potable water as a result of U.S. Government funding | Ann. | R: 0% V: 0% S: 0% | N/A | R: 0% V: 0% S: 0% T: 0% | N/A | N/A | R: 13% V: 0 S: 0 | R: <1% V: 0% S: 0% T: <1% | R: 30% V:N/A S:N/A T: 30% | R: 51% V:N/A S:N/A T:51% | R: 30% V: 36% S: 44% T:39% | R: 44% V: 0% S: 0% T: 5% | Custom indicator designed to show direct impact of LMWP supported work, which provides potable water, in contrast to most existing "improved" sources which LMWP has shown to be contaminated. Exceeded target for RobertSPORT. Total deviation due to delay of construction and startup of "mini-systems" in Sanniquellie and Voinjama. |
| 2. Percentage of households using an improved drinking water source (F 3.1.8.1-1) | Ann. | R: 7% V: 84% S: 87% | N/A | R:7% V: N/A S: N/A T:7% | N/A | N/A | R: 29% V: 84% S: 7% T: 29% | R:29% V: 84% S:87% T:79% | R: 59% V: 84% S: 87% T:59% | R:62% V:N/A S:N/A T:62% | R: 59% V: 90% S: 93% T: 88 | R:82% V:94% S:91% T:91% | Unlike Custom Indicators 1 and 1.1, this is only based on respondent answers, without field verification, consideration of seasonality and round trip travel time, or consideration of water quality. |
| 3. Number of people receiving improved service quality from existing improved drinking water sources (F 3.1.8.1-3) | Ann. | R: 0% V: 0% S: 0% | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | R: N/A V: 744 S: 770 T:1,518 | R: N/A V: 0 S: 0 T: 0 | This indicator only applies to "mini-systems" in Voinjama and Sanniquellie whose construction and startup was not completed this period. All other project supported sources are new sources. |
| 4. Percent of operating expenses covered by customer charges without external subsidies (Utility Operating Ratio) | Ann. | 0% Mini Yrs 2-4 CIP Yr 4 | N/A | N/A | N/A | N/A | R:40% V: N/A S: N/A | R:21% V: N/A S: N/A | R:100% V: N/A S: N/A | R: 57% V:N/A S:N/A | R:100% V: N/A S: N/A T:100% | R: 67% V:N/A S:N/A T:67% | With LMWP support, RobertSPORT steadily progressed toward cost recovery. The implementation of a management contract by LWSC will increase incentive to accelerate progress toward cost recovery. |

¹ R:RobertSPORT; V: Voinjama; S: Sanniquellie

| Indicator | Report Freq. | Baseline | Target Y1 (FY12) | Actual Y1 (FY12) | Target Y2 (FY13) | Actual Y2 (FY13) | Target Y3 (FY14) | Actual Y3 (FY14) | Target Y4 (FY15) | Actual Y4 (FY15) | Target Y5 (FY16) | Actual Y5 (FY16) | Comments |
|--|--------------|------------------------------|---|---|--|---|---|---|--|---|--|--|---|
| 5. Number of policies, laws, agreements, regulations, or investment agreements (public or private) that promote access to improved water supply and sanitation (F 3.1.8.3-1) | Qtly. | 0 | 6 | 0 | 6 | 1 | 3 | 3 | 0 | 7 | 0 | 0 | LMWP-LWSC MOU, LWSC-Cities MOUs, USAID-GOL MOU, LWSC-GOL PC, OMC, LWSC –NWSC Twinning MOU, LWSC-TWG Charters |
| 6. Number of outreach activities implemented to solicit input during planning or inform customers on new procedures or services | Qtly. | 0 | R:10 V: 10 S: 10 M: 0 T: 30 | R:1 V: 4 S: 2 M: 4 T: 11 | R:15 V: 15 S: 15 M: 0 T: 45 | R:2 V: 2 S: 2 M: 7 T: 13 | R:3 V: 3 S: 3 M: 0 T: 9 | R:5 V: 2 S: 3 M: 3 T: 13 | R: 2 V: 2 S: 2 M: 2 T: 8 | R:36 V: 3 S: 7 M: 3 T: 49 | R: 6 V: 6 S: 6 M: 2 T:20 | R:12 V: 1 S: 1 M: 0 T: 14 | Includes TWG workshops, household surveys and focus groups, outreach events and Town Hall meetings, project team meetings with city representatives and citizens, monthly M&E visits to Robertsport, etc. |
| 7.Number of people gaining access to an improved drinking water source (3.1.8.1-2) | Ann. | R: 0 V: 0 S: 0 T: 0 | N/A | R: 0 V: 0 S: 0 T: 0 | N/A | N/A | R:45 V: N/A S: N/A T: 45 | R:45 V: 0 S: 0 T: 45 | R:1220 V: N/A S: N/A T:1220 | R: 1693 V:N/A S:N/A T: 1693 | R:1250 V:744 S:770 T:2764 | R:1823 V: 0 S: 0 T:1823 | Robertsport exceeded target; deviation in Sanniquellie and Voinjama due to delay in Capital Improvement Projects (CIP) procurement and construction of "mini systems". |
| 8.Number of operational large water systems | Ann. | R: 0 V: 0 S: 0 | R: 0 V: 0 S: 0 | R: 0 V: 0 S: 0 T: 0 | R: 0 V: 0 S: 0 | R: 0 V: 0 S: 0 T: 0 | R: 0 V: 0 S: 0 T: 0 | R: 0 V: 0 S: 0 T: 0 | R:N/A V: N/A S: N/A | R: 0 V: 0 S: 0 T: 0 | R:1 V: 1 S: 1 T:3 | R: 0 V: 0 S: 0 T: 0 | Deviation due to delay in Capital Improvement Projects (CIP) procurement and construction. |
| 9.Number of operational mini water systems | Ann. | R: 0 V: 0 S: 0 | R: 0 V: 0 S: 0 T: 0 | R: 0 V: 0 S: 0 T: 0 | R:1 V: 0 S: 0 T: 1 | R: 0 V: 0 S: 0 T: 0 | R: 0 V: 2 S: 2 T: 4 | R:1 V: 0 S: 0 T: 1 | R: 0 V: 0 S: 0 T: 0 | R:1 V: 0 S: 0 T:1 | R: 0 V: 2 S: 2 T:4 | R:1 V: 0 S: 0 T:1 | Deviation due to delay in Capital Improvement Projects (CIP) procurement and construction. The mini systems' construction was completed in October 2016 and they were operational, but solar system not complete. |
| 10. Number of persons trained (including water utility management, operations, regulation, and oversight) | Qtly. | 0 | 0 | LWSC M: 6 F: 0 LMWP M: 8 F:2 LSC M:5 F:3 Other M:26 F:8 Total: 58 = M:45 +F:13 | LWSC M:4 F:2 LMWP M: 0 F: 0 LSC M:3 F:1 Total:1 0 = M:7 +F:3 | LWSC M: 14 F: 0 LMWP M: 0 F: 0 LSC M:12 F:7 Other M:48 F:16 Total: 71 = M:71 +F:23 | LWSC M:4 F:2 LMWP M: 3 F:1 LSC M:3 F:2 Total: 15 = M:10 +F:5 | LWSC M:8 F:44 LMWP M: 21 F:5 LSC M:17 F:13 Other M:28 F:7 Total: 141 = M:110 +F:31 | LWSC M:35 F:7 LMWP M: 20 F:3 LSC M:20 F:10 Other Total: 95 = M:75 + F:20 | LWSC M:19 F:8 LMWP M: 17 F:6 LSC M:6 F:4 Other M:16 F:4 Total: 80 = M:58 +F:22 | LWSC M:35 F:7 LMWP M: 15 F:3 LSC M:20 F:10 Other M: 0 F: 0 Total: 90 = M:70+ F:20 | LWSC M:19 F:10 LMWP M: 12 F:3 LSC M:4 F:1 Other M: 2 F: 0 Total: 51= M:37+F :14 | Number reflects total number of persons trained, not counting one person more than once (although numerous people attended multiple trainings). Topics included Asset Management, Small utility Management, outstation budgeting, Best Management Practices, Behavior change and communication, Outstation budgeting and more. Y4 target not achieved due to transfer to MCT. |

| Indicator | Report Freq. | Baseline | Target Y1 (FY12) | Actual Y1 (FY12) | Target Y2 (FY13) | Actual Y2 (FY13) | Target Y3 (FY14) | Actual Y3 (FY14) | Target Y4 (FY15) | Actual Y4 (FY15) | Target Y5 (FY16) | Actual Y5 (FY16) | Comments |
|--|--------------|----------------------|----------------------|------------------|------------------------------|------------------------------|------------------------------|-----------------------------|--------------------------|-------------------------------|-------------------------------|------------------------------------|--|
| 11.Number of monthly monitoring reports submitted by LSCs | Qtly. | R: 0 V: 0 S: 0 | R: 0 V: 0 S: 0 | 0 | R: 0 V: 0 S: 0 T: 0 | R: 0 V: 0 S: 2 T: 2 | R:12 V: 6 S: 6 T:24 | R:2 V: 2 S: 3 T: 7 | R:12 V: N/A S: N/A | R: 0 V: 0 S: 0 T : 0 | R:12 V: 0 S: 0 T: 12 | R: 0 V: 0 S: 0 T: 0 | Intended to reflect reports on systems under management contracts (currently none). The Robertsport LSC supports the monthly joint LWSC-LSC monitoring and reporting process. |
| 12. Number of procedural manuals developed | Qtly. | 0 | 0 | 0 | 4 | 2 | 3 | 4 | 1 | 1 | 2 | 0 | Includes O&M Manuals, Financial Procedures Guidelines, Household Connection Policy, etc. Draft O&M and Business plans completed for mini-systems. Awaiting formal approval by LWSC |
| 13. Number of Outstations with updated billing system software adopted and used by LWSC | Ann. | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | Billing systems not required with cash and carry system, but will be required once CIP is online expected 2018. |
| 14.Water Utility Capacity Building Score (based on Water Utility Capacity Building Tool) | Qtly. | 0 | N/A | N/A | N/A | N/A | TBD | N/A | TBD | R: N/A V:N/A S:N/A | TBD | R:1.90 V:N/A S:N/A T:1.90 | Targets were not finalized for this indicator due to lack of a complete CIP system for which it was intended, but LMWP has been tracking the indicator for the Robertsport mini-system. This indicator will be revised for use during LMWP II. |

6.0 CHALLENGES, OPPORTUNITIES, AND RECOMMENDATIONS

6.1 LAND ISSUES

Major progress was made on acquisition of land deeds for the project sites. LWSC took the lead on the process guiding the discussions during the consultative sessions with the LSCs and local authorities including County Superintendents, City Mayors and Land Commissioners. LMWP supported LWSC with consultancy surveys of the LWSC properties and other properties where the parts of the systems are to be constructed – including all kiosks. Notwithstanding this, finalization of the land deeds was a challenge and serious issue for the Project. This was raised with the incoming LWSC administration who pledged to make it a priority and finalize the issuance of the land deeds before the contractor mobilizes, which was completed.

LMWP was able to ensure that most land issues were not a roadblock to critical path tasks via early intervention and persistent effort. The land acquisition for the CIP kiosks ended up being remarkably successful and all private land owners agreed to support local development in their respective cities by signing land tenure attestations to that effect. However, this issue requires early attention including involvement of USAID and high levels within the host country government to ensure it is not an impediment to success.

6.2 CONSTRUCTION START DELAYS

LMWP received numerous inquiries from LSC members as to the status of the CIP. Despite assurances that award of the contract is “nearer than ever”, there remained skepticism on the part of the LSC members regarding the start of the CIP works – which has some effect on morale and their willingness to be fully involved and committed with LMWP activities. Recruitment of Resident Engineers began in early 2015 and resulted in lost availability of a number of candidates and restarting recruitment due to the continued delay. Uncertainty in award of LMWP 2 and possible a transition phase between LMWP 1 and 2 may result in discontinuity of quality assurance oversight.

The delay in construction procurement also caused frustration and disappointment among LMWP’s counterparts at the national and local level. Ultimately this resulted in strained relationships, eroded trust, and reduced willingness to engage in LMWP activities. Some of these challenges could be mitigated by planning for procurement methods at the project design stage.

6.3 THE EBOLA VIRUS OUTBREAK

Though West Africa was declared Ebola free this past quarter by the WHO, the recurrences of isolated cases made it apparent that it is important to continue some of the protocols implemented during the epidemic. LMWP continued to require daily temperature checks for visitors and washing of hands before accessing the offices, among other protocols.

6.4 LWSC STAFF RESTRUCTURING; AND CHANGES IN LWSC TOP MANAGEMENT

During the past year, LWSC was heavily engaged with a staff restructuring as part of an effort to improve its Sales and Marketing and increase receivables. This was followed by a presidential appointment which brought on board a newly appointed top management (including new MD and DMD-TS, LMWP's primary counterparts at LWSC). The LWSC Staff restructuring exercise, and the appointment of the new top management impacted significantly on LMWP's ability to move forward with planned activities such as the OMC in Robertsport and training events and workshops.

6.5 LMWP STAFFING CHALLENGES

After several interviews and a prolonged TOR advertisement, LMWP had challenges in finding a qualified and competent local RE that can be responsible for managing the quality assurance tasks in Robertsport. The OY1 work plan and budget proposed a local RE in order to achieve budget constraints but finding a local RE that has the requisite experience to ensure quality was a major challenge. Delay in finalizing the arrangements for the LWSC Field Engineers made it challenging to begin the on-the-job training planned for the LWSC Engineers on the field with the Construction Contractor.

Given that engineering skills cannot be developed quickly, but require years of sustained study and training, future efforts will continue to require high levels of expatriate and TCN support. At the same time, host country counterparts must be engaged at every step as a means of hands-on training and mentoring, in addition to traditional classroom-type trainings. LMWP's internship program was highly successful and resulted in several graduate engineers moving up to project engineer status and/or landing scholarships or other professional positions as a direct result of their experience with LMWP. LMWP was also successful in mitigating challenges of local capacity through the use of mobile-technology (ePORT) for remote monitoring of construction and provision of technical guidance to Liberian field staff by Monrovia-based and Home Office-based engineering staff.

6.6 MCT COORDINATION

Sustainability of the systems to be constructed will be dependent on LWSC capacity to manage them based on the framework adopted under the LMWP. There were several capacities building efforts under the aegis of the LMWP, AfDB, the World Bank and the LWSC. Even though the MCT provides the opportunity for harmonization to avoid duplication, the delay in finalizing the MCT arrangements for the capacity building of the LWSC made it challenging to complete the LWSC/LSC Capacity Buildings which primarily focused on the operationalization of the Outstation.

6.6 CIP CONTRACTOR AND SUBCONTRACTORS LIMITATIONS

There is limited experience in water main installation and water system construction due to no such projects being implemented in Liberia over the past several decades. Not only is there limited experience in water infrastructure construction skills and material procurement, there is also a lack of basic project management skills, tools and processes. Contractors often approach construction activities without following any established procedures or daily, weekly or monthly plans; schedules are often basic Gantt chart without clear sequencing of work or detailed breakdown of tasks. Incentive based contract may be a contractual approach worth pursuing in the future in order to provide a financial incentive to complete work on time or meet milestones. Breaking down a project into smaller milestones is critical.

Initial construction performance resulted in a number of concerns that must be mitigated. Slow shop drawing and submittal process by UIP may risk delays in procurement and delivery of long lead items. Slow procurement of materials and weak planning resulted in delays. Low capacity subcontractors hired by UIP need constant oversight which the UIP site engineers are not always providing. Lack of planning resulted in the contractor rushing into work without following the drawings, constructing and install items not as per the plans. Just as there is a lack of cash flow and financial management, also there is a lack of material and resource planning. Basic project management and planning skills are limited.

LMWP requested that UIP take a more active role in managing their subcontractors, especially due to their low capacity and the risk of poor workmanship and delivery or use of poor materials. Given the experience and capacity of the local subcontractors, and given that the contractor will be working on multiple sites in each city simultaneously, extensive construction oversight manpower will be required to ensure quality.

7.0 DETAILED ACTIVITIES AND STATUS OF IMPLEMENTATION

The completion status of accomplishments versus Year 5 Work Plan is provided in the following sections by Task. Note that Task 1 (Situational Analysis [SA]) was completed in Project Year 1 and formed the basis for Master Planning and essentially all subsequent work. Task 2 (Plans for Staged Water Supply and Sanitation Infrastructure Improvements) was completed in Year 2. All activities for Task 3 (Institutional Framework for Water Provision) were completed in Year 3 including the signature of the MOUs between LWSC and the Project Cities.

7.1 TASK 4 – CAPITAL WORKS

Activities completed in Year 5 under Task 4 included the kickoff and initial construction oversight and quality assurance of the Capital Improvement Projects (CIP). The table below provides completion status of the Task 4 activities as per the Year 5 Work Plan. A number of activities will continue under LMWP II as indicated.

TABLE 7.1 TASK 4 ACCOMPLISHMENTS VS. YEAR 5 WORK PLAN

| Task 4: Capital Works | Completion Status |
|---|--------------------------------|
| Field Office Improvements & Procurement | Complete, some ongoing LMWP II |
| CIP Construction Oversight | |
| RFTOP bids submitted (August 7, 2015) | Complete |
| TEC (August 11-25) | Complete |
| Award recommendation (August 25 - September 30) | Complete |
| NTP (March 16, 2016) | Complete |
| Review early deliverables (NTP + 30 days) | Complete |
| Kick off meeting Monrovia & upcountry | Complete |
| Shop Drawing review / approval (ongoing) | Complete / Ongoing LMWP II |
| RFI Process (ongoing) | Complete / Ongoing LMWP II |
| Progress Payment review/ approval (monthly) | Complete / Ongoing LMWP II |
| Schedule and performance monitoring (ongoing) | Complete / Ongoing LMWP II |
| Contract administration (ongoing) | Complete / Ongoing LMWP II |
| Daily Construction Observation | Complete / Ongoing LMWP II |
| Monthly Construction Report | Complete / Ongoing LMWP II |
| Surveyor Verification Services | Complete / Ongoing LMWP II |
| Anticipated Contractor Activities (to be coordinated with approved RFTOP schedule) | |
| Submission of early deliverables | Complete |
| Procurement of long lead items | Complete / Ongoing LMWP II |
| Mobilization | Complete |
| VE/VA Complete | Complete / Ongoing LMWP II |
| Mini System Construction | Complete, Solar Panels LMWP II |

| | |
|---|----------------------------|
| CIP Construction & Installations (NTP +2 years) - detailed schedule per approved TO contract. | Ongoing LMWP II |
| Coordination with Stakeholders (including LWSC, LSC, Sanniquellie Road & Rail Projects, Arcelor Mittal, Voinjama Road, Robertsport Fish Project) | |
| Coordination with LWSC on household connection plan during CIP construction | Complete / Ongoing LMWP II |
| Environmental Activities | |
| Monitor EPA permit | Complete / Ongoing LMWP II |
| EPA permit renewal | Complete / Ongoing LMWP II |
| Quarterly Water Quality Sampling and Analysis in 3 Cities | Complete / Ongoing LMWP II |
| Semi-Annual Monitoring Reports to EPA | Complete / Ongoing LMWP II |
| Daily stream flow measurements | Complete / Ongoing LMWP II |
| Environmental and Water Quality Reports for USAID (in Quarterly Report) | Complete / Ongoing LMWP II |
| LWSC Land Deeds Finalization | |
| Private Land Deeds (LWSC); LMWP follow up | Complete |
| Public Land Deeds (LWSC); LMWP follow up | Complete |

Highlights of activities under this task during the past year are detailed below.

Land Acquisition

LMWP supported LWSC as it continued to work on finalizing the land deeds for the private properties in all three cities where public kiosks will be constructed. Land attestations were received for all private land where a Capital Improvement Project (CIP) kiosk is proposed. The public land verifications and deeds preparation for treatment plants and other facilities were completed by the respective Land commissioner and LSC.

Capital Improvement Project (CIP)

Streamflow measurements. LMWP continued to collect daily rainfall and stream flow measurements in the three cities throughout the year.

CIP Tendering Process. LMWP was not involved in the CIP bid evaluation or negotiations, however, did provide responses and support to USAID specific queries during the evaluation process.

CIP Construction Phase Preparations. LMWP conducted numerous activities to prepare for the CIP construction phase, including: technical meetings with USAID to review the construction drawings and finalize an agenda for the preconstruction meeting with UIP; updated and programmed the ePort daily reporting template to be city specific; developed the CIP communication plan that was agreed upon with USAID; finalized the Quality Assurance (QA) manual including detail worksheets and templates that will be used by the LMWP quality assurance team; and prepared and conducted a two-day Quality Assurance workshop for LMWP engineers in February 2016. LMWP also conducted recruitment of field engineers and establishment of field offices as described below.

Post-Award Conference. USAID issued the Notice to Proceed (NTP) for the CIP construction services contract on March 16, 2016, which was awarded to United Infrastructure Projects (UIP). LMWP attended the post-award conference on March 16 which included introduction of key USAID, UIP and LMWP stakeholders and review the contents of the contract. Following the post-award conference, LMWP introduced UIP to LWSC.

Kick off meetings. LMWP led the CIP kickoff meeting in Robertsport on March 17, introducing UIP to the local authorities and local steering committee (LSC), and including USAID and LWSC and tours of the existing and proposed facilities. On March 22 and 23, LMWP led the CIP kickoff meetings in Voinjama and Sanniquellie respectively, introducing UIP to the local authorities and LSCs and visited the water treatment plant site and quick impact mini system locations.

Preconstruction meeting. LMWP and USAID joint-led a preconstruction meeting with UIP to discuss project details, communication expectations, deliverables, work plan, and overall quality and management expectations for the CIP construction services.

Deliverable & Shop Drawing Review. LMWP reviewed and provided comments on the Contractor early contract deliverables including the work plan, schedule of values, construction risk management plan, health and safety plan, environmental mitigation and management plan, electronic document control systems and quality control program. Detailed comments were provided to USAID for additional input before responding to UIP.

CIP Groundbreaking ceremony

LMWP planned and facilitated a ground breaking for the CIP in Sanniquellie on May 27, 2016. The ceremony included participation of national and local dignitaries including the USAID Mission Director (Dr. Anthony Chan), the Honorable Deputy Minister for Public Works (Jackson Paye), LWSC Managing Director (Hun Bu-Tulay), the respective Superintendents for Nimba (Honorable Fong Zuele), Lofa (George Dunor) and Grand Cape Mount (Tenneh V.S. Kpendebah), Local Steering Committee (LSC) members, Eminent citizens including the Nimba County Community College President, Paramount Chiefs, Tribal Governors and other stakeholders. The event was held at the water treatment plant on May 27 and after the speeches and official ceremony LMWP conducted a tour of the facilities for the attendees.



May 2016 CIP Groundbreaking Ceremony (L-R): Mac Tomah (Sanniquellie LSC) remarks; tour of the water treatment plant; Mission Director Dr. Anthony Chan remarks

Daily Construction Oversight & Contract Administration. Construction activities began in the three cities in April 2016 and immediate work focused on the mini systems in Sanniquellie and Voinjama and the standard kiosks in all three cities, followed by work at the treatment facilities, elevated tanks, and pipeline construction. The CIP works are expected to require approximately two years to complete and therefore will be finished in 2018 under LMWP II. All construction activities are detailed in the monthly construction reports. This section provides an overview summary of accomplishments.

Mini Systems Construction. The four mini-systems (two in Voinjama, two in Sanniquellie) were completed including buildings, equipment, and perimeter fences. Minor, no-cost adjustments were made to respective mini system site layouts to address final property limits as agreed to between LWSC and the respective land owners and the maps provided. LMWP and the LSC coordinated with the property owners as required. All four mini-systems were operational by October 2016, with exception of the solar panels which were not yet delivered and will be installed during LMWP II. As of the end of October, the systems were utilizing generators for power supply.

Capital Improvement Project (CIP) Construction. As noted above, this section provides a summary only. Please refer to monthly construction reports for details. As noted in challenges section, initial construction challenges included poor planning on the part of the contractor resulting in delays ranging from delayed materials procurement to poor aggregate quality to extended time required between concrete pours due to improper planning. In some cases, facilities needed to be removed and reconstructed.

The contractor first completed a water main alignment stakeout in the three cities from which shop drawings will be drafted and submitted detailing the fittings, bends and valves to be installed. The water main alignment stakeout includes placing steel rods along the intended pipeline route.

As of the end of October, construction progress stood at 24% complete after 31% time expended (illustrative photos below). Through October, notable construction accomplishments included: completion of a majority of the standard public kiosks (91%), clearing and grading of facilities sites, cleaning and plastering existing treatment plant buildings and tanks, removal of existing filter media and starting construction of slow sand filter tanks, cleaning and fencing of solar array fields, rehabilitation and construction of access roadways, installation of perimeter chain link fence around the water treatment plants, construction of the berm in Voinjama, construction of solar battery houses in Sanniquellie and Voinjama, and lower reservoir rehabilitation in Robertsport.

Household Connections. LMWP has supported LWSC to finalize a connections policy and strategy and also completed a survey of potential individual connections customers to be connected during CIP construction or soon thereafter.



Sanniquellie mini water system at Mango Island (left) and Sanniquellie solar battery house construction (right)



Voinjama WTP rehabilitation (left) and solar battery house construction (right)



Voinjama berm construction (left) and WTP perimeter chain link fence installation (right)



High groundwater conditions and excessive rain during the rainy season in Robertsport delayed completion of the pipeline installation to the new fish processing center.

7.2 TASK 5 – TRANSITIONAL MANAGEMENT OF WATER SUPPLY IMPROVEMENTS

Under this task, LMWP supports the management of water system improvements and provides technical assistance and capacity building during the transition to O&M cost recovery of the Outstations. In addition to continuous technical and other support to the Robertsport Water Treatment plant operations, activities under this task have focused on implementation of Sustainability Monitoring Plan for Robertsport and preparations for same in the other two cities including business planning and O&M manuals, plus support for the operationalization of an M&E Unit within LWSC,. The table below provides completion status of the Task 5 activities as per the Year 5 Work Plan. A number of activities will continue under LMWP II as indicated.

TASK 5 ACCOMPLISHMENTS VS. YEAR 4 WORK PLAN

| Task 4: Capital Works | Completion Status |
|--|------------------------------------|
| LWSC/NWSC Twinning - ON HOLD DUE TO MCT, SCHEDULE TO BE REVISITED | |
| NWSC conduct rapid needs assessment of LWSC (Aug/Sept) | Postponed to LMWP II |
| Develop capacity building and technical assistance program (Aug/Sept) | Postponed to LMWP II |
| Visit NWSC with LWSC with senior Management and Board (Aug/Sept) | Postponed to LMWP II |
| Finalize capacity building and technical assistance program for staff, management and BoD | Postponed to LMWP II |
| Implement capacity building and technical assistance program | Postponed to LMWP II |
| Sustainability Monitoring | |
| Continue to work with the LWSC to implement Sustainability Monitoring Plan (Financial and Operational) and Framework | Complete / Ongoing LMWP II |
| LMWP/LWSC/LSC Quarterly Project Meetings | Complete / Ongoing LMWP II |
| Support LSCs to develop quarterly work plans and submit regular monthly reports | Ongoing LMWP II |
| <i>Robertsport</i> | |
| Monthly Sustainability Monitoring/Evaluation and Feedback Meeting (Robertsport) | Complete / Ongoing LMWP II |
| Monthly Sustainability Monitoring / Evaluation and Feedback Report (Robertsport) | Complete / Ongoing LMWP II |
| Operator Audit Reports Biannually (<i>Robertsport</i>) | Complete / Ongoing LMWP II |
| <i>Sanniquellie and Voinjama</i> | |
| Monthly Sustainability Monitoring/Evaluation and Feedback Meeting (Voinjama and Sanniquellie) | Delayed due to CIP delay / LMWP II |
| Monthly Sustainability Monitoring / Evaluation and Feedback Report (Sanniquellie and Voinjama) | Delayed due to CIP delay / LMWP II |
| Support LWSC in the Establishment of a M&E Unit | |
| Finalize the hiring of Seconded M&E Specialist | Complete |
| Develop & Finalize M&E Unit Framework and SOPs for Internal KPIs for Management and LWSC Units | Complete / Ongoing LMWP II |
| Work with NWSC and LWSC to finalize technical assistance support for M&E Unit | Ongoing LMWP II |
| Monitor and report on PC and OMC | Complete / Ongoing LMWP II |
| Cost of Service Model | |
| Continued support to LWSC on Maintaining Cost of service Model and Updating Chart of Accounts | Complete / Ongoing LMWP II |
| Support LWSC establish cost of service rates for Sanniquellie and Voinjama Mini-systems & Finalize O&M Manuals | Complete |
| GOL/MOFDP MOU | |
| Execute USAID - GoL (MFDP) MOU - Monthly and Quarterly Reports to USAID, LWSC and MoFDP | Complete / Ongoing LMWP II |
| LWSC - GoL (MFDP) Performance Contract | |
| Execute Final LWSC - GoL (MFDP) Performance Contract - Quarterly Reports to LWSC BoD and MOFDP (August) | Complete |
| Assist in the Implementation of LWSC - GoL (MFDP) Performance Contract - M&E and Quarterly Reporting to BoD | Complete / Ongoing LMWP II |
| OMC Contract | |
| <i>Robertsport OMC</i> | |
| Kick off Meeting with Operator, LWSC and LSCs to define scope and requirements of Pilot/Sensitization Program | Postponed to LMWP II |
| Assist LWSC/Operators during Pilot Period | Postponed to LMWP II |
| Update OMC including Financial Guidelines based on lessons learned during Pilot Period | Postponed to LMWP II |
| Assist Negotiation between LWSC and Operator | Postponed to LMWP II |
| Execute OMC with Operator | Postponed to LMWP II |
| <i>Sanniquellie and Voinjama OMC (Mini Syst.)</i> | |
| Develop Draft OMC & Business Plans - Voinjama and Sanniquellie | Postponed to LMWP II |
| Review Draft OMC with USAID and LWSC for acceptance / comments | Postponed to LMWP II |

| | |
|--|----------------------------|
| Kick off Meeting with Operator and LWSC to define scope and requirements of Pilot/Sensitization Program | Postponed to LMWP II |
| Assist Operators during Pilot Period [re-schedule for OY2] | Postponed to LMWP II |
| Update OMC based on lesson learned in Pilot Period [re-schedule for OY2] | Postponed to LMWP II |
| Assist Negotiation between LWSC and Operator [re-schedule for OY2] | Postponed to LMWP II |
| Execute OMC with Operator [re-schedule for OY2] | Postponed to LMWP II |
| New Operator Voinjama and Sanniquellie Staff in place for Mini Systems | Postponed to LMWP II |
| Sales and Marketing Support (QSIP) | |
| Implementation of Behavior Change, Communications Social Marketing Strategy | Ongoing LMWP II |
| Support LWSC in finalizing policy for accommodating customers with direct piped connections (associated tariff, construction requirements, additional staff requirements, cost/implementation mechanisms) | Complete / Ongoing LMWP II |
| Support LWSC's development of Sales and Marketing Strategy thru a Quality of Service improvement Program (QSIP) | Postponed to LMWP II |
| Assist in Implementation of Sales and Marketing Strategy, Training and Plans of Action (QSIP) | Postponed to LMWP II |
| Organizational/Institutional Strengthening | |
| Support LWSC OMT to develop Local Business Plans for Voinjama and Sanniquellie - Market Surveys | Postponed to LMWP II |
| Review Business Plans with LWSC and USAID for acceptance and approval - Voinjama and Sanniquellie | Postponed to LMWP II |
| Implement Business Plans to achieve established targets (Based on Cost Recovery) - Voinjama and Sanniquellie | Postponed to LMWP II |
| Support LWSC OMT to Update Local Business Plans (FY 17 Biz Plan) - Robertsport | Complete / Ongoing LMWP II |
| Implement Business Plans to achieve established targets - Robertsport | Complete / Ongoing LMWP II |
| Asset Management Plan | |
| <i>Robertport and Kakata</i> | |
| Assist LWSC to update Asset Management Inventory - Robertsport and Kakata | Completed for Robertsport |
| <i>Sanniquellie and Voinjama</i> | |
| Assist LWSC setup Asset Management Inventory in Voinjama and Sanniquellie [re-schedule for OY2] | Postponed to LMWP II |
| Dissolving and Transitioning the TWG | |
| Support LWSC to Plan and Host Charter Workshop to develop Set of Quarterly Work Plans | Ongoing LMWP II |
| Implementation of LSCs Work Plans | Ongoing LMWP II |
| Household Service Level Survey | |
| Robertsport Household Survey | Complete |
| Voinjama and Sanniquellie | |
| Revise questionnaire, survey design, ePORT system and training of enumerators in Voinjama and Sanniquellie | Complete |
| Conduct HH and water source survey in Voinjama | Complete |
| Conduct HH and water source survey in Sanniquellie | Complete |
| Review, analysis, and quality control data | Complete |
| Draft Survey Report | Complete |
| Present final reports to LWSC, USAID and Cities | Complete |
| Implementation of the Water Quality Assurance Plan (or Water Safety Plan) | |
| Work with LWSC to implement the WQAP or WSP developed with LMWP | Ongoing LMWP II |

Highlights of activities under this task during the past year are detailed below.

LWSC/Uganda National Water and Sewer Company (NWSC) Twinning

Due to the changes in management at LWSC in November and pending award of the AfDB-funded Management and Commercialization Training (MCT) capacity building project for LWSC, it was

jointly agreed among LWSC, LMWP, and USAID to postpone the initial phase of LWSC-NWSC twinning per the MOU signed in FY16. This would allow the new management time to understand the current situation at LWSC and implications of the arrival of the new MCT team to coordinate activities and avoid duplication of efforts. In the meantime, the MD LWSC was invited along with the COP LMWP to attend a forum organized by NWSC in conjunction with International Water Association (IWA). The Forum was held in Kampala, Uganda at the NWSC Training Center from June 27-28, 2016. Following attendance to the forum the MD LWSC and COP LMWP were able to meet with NWSC management to discuss next steps which will include a visit by NWSC M&E Specialist to assist LWSC finalize the establishment of the M&E Unit.

Sustainability Monitoring

Robertson Operations. The Robertson Outstation operated without an LWSC-appointed Officer-In-Charge (OIC) since 2014 when the previous OIC, Oscar Otto, was reassigned to a position in Monrovia. Mr. Otto had been extensively trained and mentored by LMWP and was instrumental in developing the Robertson Outstation Business Plan. Although a clerk was assigned as acting OIC, LMWP engineer Lorenzo Smith (via subcontractor Richards Engineering) has effectively served as OIC since Mr. Otto's departure, including administrative and technical aspects of Outstation operation and management.

LWSC named Aaron Ben as the new OIC in August 2015, although he did not formally take up the role in Robertson until November. LMWP has since provided mentoring and training support to acquaint him with system operations and management, including the current business plan (July 2015 – June 2016), associated targets and indicators, and the reporting framework and protocols.

Monthly Joint Monitoring and Evaluation visits have continued this year per the Sustainability Monitoring Plan. Summaries of the evaluation and feedback meetings are reflected in the monthly Sustainability Monitoring Reports submitted to USAID, LWSC and the LSCs. Additional details and discussion of ongoing operational and management issues are also provided in the monthly Sustainability Monitoring Reports. Monthly meetings are held between LMWP, LWSC and the Robertson LSCs to review performance against targets in the business plan. While these reports were initially still prepared by Lorenzo Smith, the role of drafting these reports was subsequently transferred to the new OIC once he was provided with a computer by LWSC. LMWP's support to LWSC included continued cross-checking and analysis of the monthly outstation expense report as well as assisting the Finance Department of LWSC in tracking and reporting on expenses/revenues for the Robertson system.

In accordance with the Sustainability Monitoring Plan, data is collected, compiled and reviewed with the LSC and LWSC on a monthly basis, and summarized in monthly Sustainability Monitoring Reports.

A summary of Robertson operational performance for the project duration is provided in Table 1. The system has sold nearly 1.6 million gallons via its cash-and-carry system, or about 300,000 individual jerricans of water since inception. The initial system established in 2013 only consisted of a single kiosk located at the treatment facility, which was well over a kilometer from most homes. Once the pipeline extension was completed in early 2015, the system was operating six kiosks located in one populated portion of the city. System revenue has grown from less than \$5,000 in the first full fiscal year of operation (FY14) to approaching \$20,000 in FY16. In addition to the system's physical expansion in 2015, the other primary factor in increased revenue was the four-fold tariff increase in March 2015. The increase in sales is attributed to the new sources (public kiosks) being closer to residents' homes among other factors, including an observed increase in willingness to pay per annual household surveys. The increased revenue has resulted in increasing operating ratio (cost recovery) from 21% during the first full year of operation (FY14) to 67% in FY16. A comparison of operating ratio targets (per business plan) to actuals is shown in Figure 1.

Owing to the cash-and-carry nature of the systems, collection efficiency has remained around 100%. Due to improvements in infrastructure and metering, non-revenue water has been less than 5% since the pipeline extension was completed.

The overall improvement of financial and technical system performance is attributed to a combination of the pipeline extension which put water closer to customers, the tariff increase, and the monthly sustainability monitoring and evaluation exercises and associated training which has engendered a culture of continuous performance improvement, data-driven decision-making, and focus on customer service.

Table 1. Robertsport Operational Summary May 2013 -September 2016

| Indicator | Unit | FY13 Partial (May 13- Sep 13) | FY14 (Oct 13- Sep 14) | FY15 (Oct 14- Sep 15) | FY16 (Oct 15- Sep 16) | Total |
|-----------------------|---------|--|-----------------------------|-----------------------------|-----------------------------|-----------|
| Production | Gallons | 137,831 | 546,811 | 564,762 | 499,660 | 1,749,064 |
| Volume of Water Sold | Gallons | 97,580 | 464,403 | 539,416 | 478,289 | 1,579,688 |
| Non-Revenue Water | % | 29% | 15% | 4% | 5% | |
| Revenue | USD | \$1,009 | \$4,735 | \$13,833 | \$18,155 | |
| Collection efficiency | % | 100% | 99% | 99% | 100% | |
| Total Expenses | USD | \$9,495 | \$22,326 | \$24,394 | \$27,298 | |
| Surplus (Deficit) | USD | (\$8,486) | (\$17,590) | (\$10,561) | (\$9,143) | |
| Operating Ratio | % | 11% | 21% | 57% | 67% | |

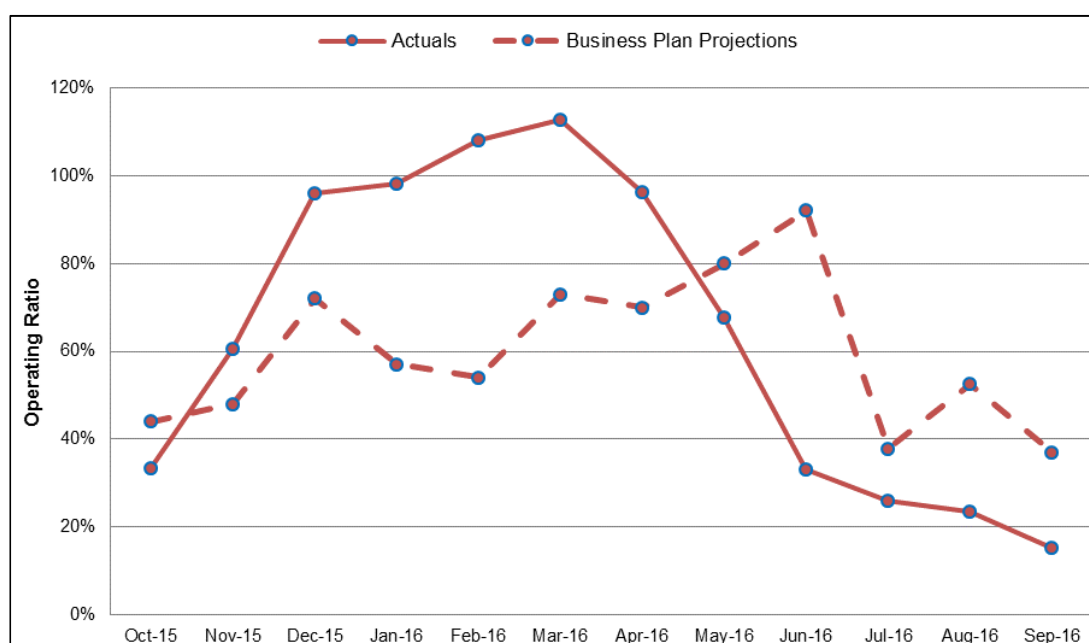


FIGURE 1. FY16 ROBERTSPORT OPERATING RATIO ACTUALS VS TARGET

As shown in Figure , daily sales are inversely correlated to rainfall, a clear trend which has been incorporated into business planning. Sales decline during the rainy season due to increased water availability and rainwater harvesting, then increase during the dry season when water is not readily available from sources. LMWP has worked with LWSC to consider means of increasing sales and reducing costs in the rainy season, including lowering tariff for part of the year, closing or reducing hours of kiosks, and increased marketing and outreach. One challenge LWSC has is defining when the rainy season starts and when such changes would start and end. In terms of increasing sales, LMWP together with LWSC and the LSC conducted outreach events in tandem with LSCs, mostly through community meetings, megaphone and radio announcements, and written materials, often with a focus on the health impacts of water that is not disinfected. LMWP's household surveys and focus group

events were designed to gather information on customer preference and concerns. As a result of customer preferences expressed in the surveys and focus groups, LMWP worked with LWSC to stay open every day and adjust operating hours according to customer preferences.

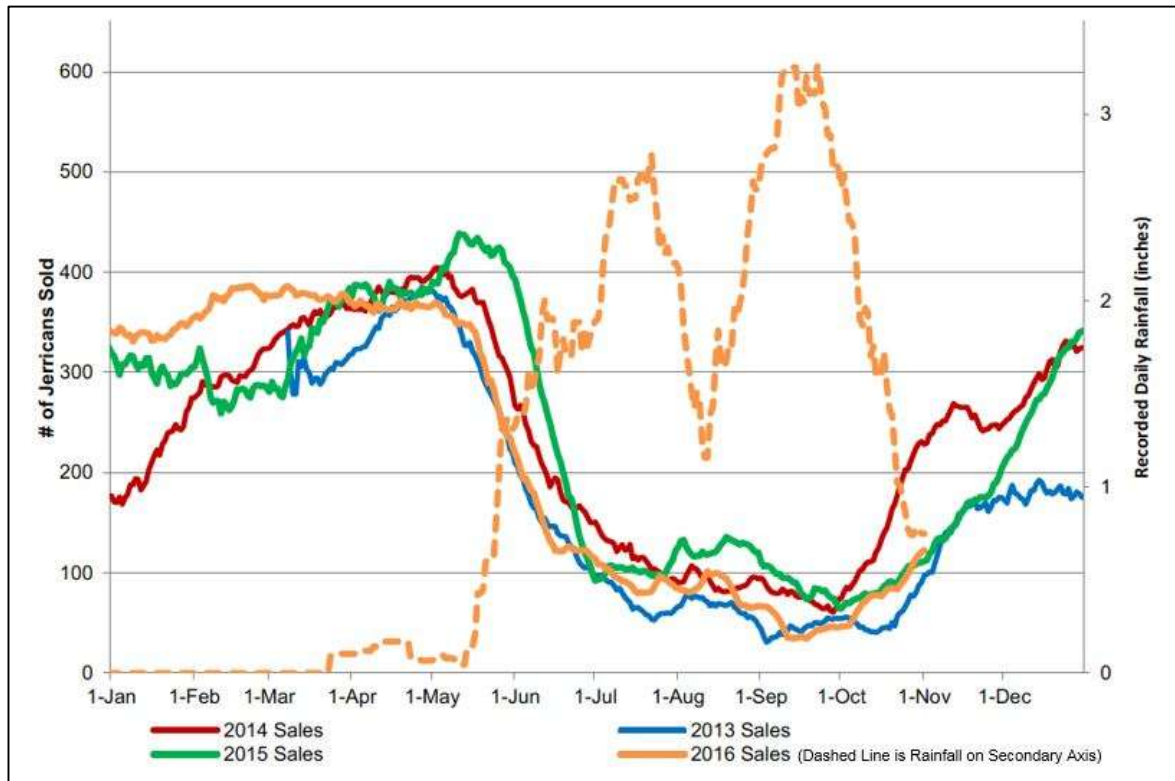


FIGURE 2. ROBERTSPORT DAILY SALES (30-DAY MOVING AVG) 2013-2016

LWSC M&E Unit. LMWP finalized the hiring of the M&E Specialist to be seconded to LWSC. Tenneh Johnson-Nelson commenced work in April 2016. The M&E Specialist was hired to work with LWSC to establish a working M&E Unit to oversee monitoring of the Performance Contract (PC) and the OMCs for the Outstations, oversee implementation of the sustainability monitoring framework developed under the project in Robertport for possible adaptation and roll out to the other Outstations. Over the year, the M&E specialist successfully worked with LWSC to establish a working M&E Unit and develop a draft Monitoring Framework and Standard Operating Procedures (SOPs) for the organization. The M&E Unit collected PC data for the first six months (July 2015-December 2015) and convened a meeting on the 26th April 2016 with the Ministry of Finance and Development Planning State Owned Enterprises (SOEs) Unit and LWSC top management to review the interim PC report. The M&E Unit continued to work for the remainder of the project year with the various LWSC departments.

As envisioned in the PC, a realignment of the baseline data and the revised performance shall be adopted. The targets developed by LWSC as part of their annual budget 2016-2017 was adopted as benchmark to measure progress for the fiscal year. The M&E Unit collected data from the various departments from January 2016 to October 2016. However the data submitted were not reliable and exploitable because the accounting system (Sage) was down throughout this period.

Cost of Service (COS) Model. LMWP continued support to LWSC on updating of the COS through the Chart of Accounts in support of business planning, cost-recovery analysis and monitoring and evaluation of key performance indicators against targets – to include the OMCs and the PC.

LMWP has already worked with LWSC to finalize the COS Model for Robertsport and Kakata. Currently, it is possible for LWSC to establish unit costs of production and determine profits and

losses per gallon of water sold in Robertsport and Kakata. LMWP supported LWSC in developing a Model for Monrovia. Through the COS Model, LMWP has worked with LWSC to begin to establish all Outstations (including Monrovia) into separate profit centers where expenses and revenues are tracked and accounted for by Outstation.

LMWP worked with LWSC to develop a Cost of Service (COS) for the mini-systems in Voinjama and Sanniquellie, a crucial element required for tariff analysis. The COS model was considered by LWSC in setting the tariff and is updated monthly as part of the Sustainability Monitoring Plan.

Outstation Management Contract (OMC). LMWP introduced to the new LWSC management the institutional framework as established under the project in November 2015, with the intent to implement a pilot in Robertsport allowing for the accumulation of lessons learned ahead of large scale construction in Robertsport and the other target cities. LWSC suggested that this be included as part of the issues to be reviewed under the MCT. Following a meeting with the MCT team in February 2016, LMWP shared the materials with the MCT team. LWSC did not take a decision regarding the pilot OMC in Robertsport after the leadership transition and it was not implemented this year.

LSC Work Plans. LMWP provided support to the LSCs for the three cities to develop work plans and budgets. The plans incorporate activities reflecting the CIP implementation and its challenges including sensitization on the construction process, the need to pay for water services and information on the private/neighborhood connections available with the CIP.

Individual Connections Policy. LMWP supported LWSC in developing a connections policy – particularly for potential customers for the CIP. A draft policy has been provided to LWSC for review. Surveys were conducted in each city to identify potential customers who may be interested and able to have an individual connection. The policy was not finalized by LWSC this year, but is expected to be finalized and implemented under LMWP II.

Household Survey. The 2016 Household Survey was conducted in July and August 2016 by a team comprised of the following: LMWP Staff and Engineering Interns, LWSC Field Engineers (Construction Site Engineers), and the respective LSC members. The report summarizing the results of the 2015 Household Survey conducted in Robertsport was finalized and submitted to USAID. Household survey responses are used to report on project indicators and as critical inputs for communications and outreach activities.

Water Quality/Water Safety Plan. The LMWP COP was invited to an International Water Association (IWA) sponsored workshop in Accra, Ghana in October 2015 on developing Water and Sanitation Safety Plans. LMWP recommended the invitation and participation of the LWSC Deputy Managing Director Technical Services (DMD-TS, Frankie Cassell). The LMWP COP and DMD-TS attended and LMWP supported LWSC in making a presentation. Following the workshop, LMWP began working with DMD-TS on the finalization of the Water Safety Plan for LWSC. Unfortunately, this was put on hold due to management transitions at LWSC that took place in November, including dismissal of the DMD-TS.

LMWP subsequently worked with LWSC and the International Water Association (IWA) to finalize this latter planned support to LWSC for both the development of a Water and Sanitation Safety Plan (WSSP) and twinning with regional utilities (Ghana and Sierra Leone). Based on initial discussions with IWA and LWSC, a workshop was planned May 16-20, 2016 in Monrovia to be supported by IWA. LMWP had earlier supported LWSC develop a draft Water Quality Management Plan – which was adapted into a draft Water Safety Plan. LMWP also supported LWSC with the operationalization of the Water Quality Unit, water quality testing training, finalization of the water quality monitoring plan and the conduct of water testing campaigns in Monrovia, Robertsport and Kakata.

With support from LMWP, LWSC now has a functioning water quality unit conducting daily testing in Monrovia and quarterly tests in the AfDB cities. The IWA continued their collaboration with LWSC and LMWP concluded its participation. LWSC now has a functional water quality unit to conduct additional tests in the LMWP cities if required and can be facilitated by LMWP II. This was our objective.

Updating of Local Business Plans. LMWP supported LWSC to develop and update the business plans for the three LMWP project cities for the current fiscal year (July 2016 to June 2017 as per LWSC fiscal calendar). The business plans serve as benchmarks to measure the Outstation's performance towards achieving financial sustainability and efficient operation and against the targets in the Performance Contract signed between LWSC and the GoL. The Robertsport Officer-in-Charge (OIC) carried out a review of the business plan for Robertsport Outstation in collaboration with the LSC. The business plan was submitted to LWSC senior management for review and approval.

While LWSC is in the process of identifying the Officer-In -Charge for the Voinjama and Sanniquellie outstations, LMWP supported the development of business plans for the mini-systems which began operation in October 2016. The business plans are now used as benchmark for the sustainability monitoring exercises.

O&M Manual for the mini-systems operations in Voinjama and Sanniquellie. The draft O&M Manual for mini-system was reviewed with the LWSC Field Engineers. Following the inclusion of comments received from the field, the draft O&M manual was submitted to LWSC Head Office for comments and updated and revised based on feedback received from the LWSC management. The manuals are now being implemented in Voinjama and Sanniquellie.

7.3 TASK 6 – CAPACITY BUILDING

Ensuring that the requisite technical, regulatory, procurement, and managerial capacity exists to sustainably maintain infrastructure is critical to the success of LMWP and a fundamental strategic pillar for this project. The capacity building component crosscuts activities under all the other tasks. Hence, as reflected in this report, the capacity building component of the project is also "woven" into all the other tasks.

The LWSC Staff restructuring exercise and the appointment of new LWSC management in November 2015, the majority of the planned workshops for the quarter had to be delayed, suspended or postponed. In addition, during the first meeting with the new LWSC management in November 2015, LWSC asked that LMWP put on hold its training program until the Management and Commercialization Training (MCT) plan of activities is finalized. However, LMWP did not receive a draft inception report until April 2016 and no final inception report received.

A summary of accomplishments versus Year 4 Work Plan for Task 6 is provided in the table below.

TASK 6 ACCOMPLISHMENTS VS. YEAR 4 WORK PLAN

| Task 4: Capital Works | Completion Status |
|---|---|
| Final OY1 Capacity Building Plan Targeting the LWSC, Outstations and LSCs | On hold due to MCT |
| Support Implementation of Twinning MOU with NWSC Uganda) for technical support and capacity building | Complete / Ongoing LMWP II |
| Offsite Training in governance for BoD and Senior management with twinning arrangement with NWSC | QSIP conducted (See below); Additional governance work with NWSC on hold due to MCT |
| Refresher Training on Updating of the Cost of Service (COS) Model (Remove to MCT?) | On hold due to MCT |
| Business Plan Development Training (Remove to MCT?) | Complete |
| Sustainability Monitoring Training (Remove to MCT?) | Complete |
| OMC Implementation Training Phase II (monitoring, reporting, performance evaluation) – Sanniquellie and Voinjama (Remove to MCT?) | On hold pending OMC implementation |
| Kiosks (CIP) Operations and Maintenance, and Finance Management Training (Robertsport, Voinjama and Sanniquellie) (Remove to MCT?) | Complete |
| Communication / Outreach (BCC) Awareness and Social Marketing – Safe Water; Gender mainstreaming Training (Remove to MCT?) | On hold due to MCT |
| Outstation Water Quality Management: Basic analysis and quality control Refresher (Remove to MCT?) | Complete |

| | |
|---|--|
| Customer Care Training (communications, outreach/community relations, marketing, gender considerations, quality of service) - Sanniquellie and Voinjama (Remove to MCT?) | On hold due to MCT |
| Health, safety and environment in water facilities (Remove to MCT?) | On hold due to MCT |
| Outstation budgeting, accounting, and financial management (Remove to MCT?) | On hold due to MCT |
| Mini-System (CIP) Operations and Maintenance | On hold due to MCT |
| Asset Management Software Training for Small Systems (Remove to MCT?) | On hold due to MCT |
| Small Water Utility Management and Best Practices (Remove to MCT?) | On hold due to MCT |
| Training in Service (Contract) Procurement/Management Skills for Local Engineering Firms/Contractor | Postponed per USAID / Pending EOI identifying private sector firms |
| Training in Business Plan development and Implementation, O&M, HSE, Financial Guidelines, OMC, etc. for Engineering Firms (local) for Private Water Utility Operator (TO BE DETERMINED) | Postponed per USAID / Pending EOI identifying private sector firms |
| LMWP/LWSC Project Team training on Construction Oversight SOP - Conducted one training Feb 25-26, 2016. Seconded training moved to after RE are hired. | Completed |
| On the job training for interns and engineering staff | Complete / Ongoing LMWP II |
| LMWP/LWSC Engineering / Construction Preparation Trainings - PVC, DIP and others TBD | Completed |
| LMWP/LWSC Engineers Performance Review - Lifelong learning & career development | Completed |

During the first quarter, LMWP conducted the **Quality Service Improvement Program (QSIP)/Service Audit Workshop/training** and **Water Kiosks Operations and Maintenance and Financial Management** training. In addition, LMWP conducted training and orientation for the newly appointed OIC in Robertsport. The purpose was to familiarize the newly assigned OIC with the business plan, the monthly performance report, and the WTP flow chart – among other issues. Since then, the new OIC continues to be overseen by Lorenzo Smith who transferred his responsibilities to the OIC over the course of the year.

During the second quarter, the new LWSC management suggested that LMWP put on hold its training program until the Management and Commercialization Training (MCT) plan of activities is finalized to avoid duplication of capacity building efforts. The MCT is the institutional and technical component of the African Development funded Urban Water Supply and Sanitation (UWSSP) Project. During the second quarter, LMWP conducted the following trainings: **Water Quality Management: Basic Analysis and Quality Control Refresher**, and **Construction Management**.

During the third quarter LMWP focused on the finalization of selection and deployment for the LWSC Field Engineers, development of training modules and training of the Field Engineers and coordination with the AfDB funded MCT consultancy.

During the fourth quarter LMWP conducted hands on technical trainings and material for LWSC engineering orientation and preparation for both the construction oversight and the O&M phase.

Highlights of individual activities under this task during the past year are detailed below.

Quality Service Improvement Program (QSIP)

The QSIP Workshop was held December 7 - 11, 2015 in the LWSC Conference Hall, Monrovia, Liberia. Highlights of the workshops included the following half day sessions, attended by 10 to 17 participants each day including LWSC managers and supervisors:

- *Vision and Values* – Discussed and began development of vision and focus for organizational quality and service to customers, guiding values, and service improvement strategy;
- *Service Audit – Design* - Service Improvement Strategy, Development of customer maps, Design of employee service survey, Design of customer service feedbacks instrument);

- *Service Audit - Improvement Design* - Development of Service Improvement Recommendations;
- *Service Audit - Service Credo* - Finalization of "Service Credo" for LWSC and Next Steps

Water Kiosks Operations and Maintenance and Financial Management

This workshop was held December 3-4, 2015 in Robertsport for LWSC staff, kiosk operators and LSC from Robertsport and Kakata. The objective of the workshop was to train kiosks operators in basic kiosks operation skills, which was intended to result in the following:

- Enable the Operators to manage the kiosks from a technical and financial perspective.
- Assure that the LWSC can deliver a good product (treated water) and a good service in Robertsport.
- Enable Operators to sensitize their clients on how to keep the kiosk clean and on how to use water in a proper way.
- Enable Operators to take part in emergency programmes.

The workshop was attended by 24 participants from LWSC, the LSC and LMWP.

Construction Management and Quality Assurance

The workshop was conducted on February 25 and 26 in the LMWP conference room. The objective of the QA workshop was to communicate the roles and responsibilities of the field team, review the construction management systems, and introduce QA standards that LMWP will be implemented during the construction phase. Highlights of the workshops included:

- Review of the QA manual
- Role & responsibilities
- Communication & reporting expectations
- Tools and systems to monitor performance
- Contract / non-conformance
- Risk assessment / management

Water Quality Management: Basic Analysis and Quality Control

The workshops were held February 10, 2016 in Monrovia for LWSC Water Quality Unit and on February 18th in Robertsport for both the members of the LWSC Water Quality Unit and the Robertsport Outstation Management Team (OMT). The objective of the workshops was to familiarize LWSC staff (Head Office and Outstation) with the fundamentals of water quality analysis and highlight their role in assuring the water provided to LWSC's customers is safe and environmentally sustainable. The sessions included theoretical presentations focusing on increasing understanding of the physico-chemical and bacteriological quality of safe water, as well as practical hands-on demonstration of water quality testing using the *Wagtech Potalab®+ Water Quality Laboratory* which has been acquired by LMWP and will be gradually transferred to LWSC.

The training was complemented by a kick-off of the LWSC Water Quality Plan. LMWP supported this effort in addition to providing the testing equipment and the reagents. For the practical session, physicochemical and bacteriological tests were conducted using the *Wagtech Potalab®+ Water Quality Laboratory* provided by the LMWP.

Training Attendance included four (4) staff: LWSC Water Unit junior engineers, the Robertsport OIC and the Water Dispenser.

Selection Finalization and Deployment of LWSC Field Engineers

LMWP worked with LWSC and USAID to finalize the selection and deployment of the LWSC Engineers to the field. This was made more imperative with the beginning of construction activities

by the Contractor and the need for LWSC to assume ownership of the construction project at the onset with direct physical presence and reporting to Head Office by LWSC Engineers. In addition LMWP continued to coordinate and update LWSC management both through direct meetings or the sharing of reports. LMWP also worked to develop the capacity of the LWSC Field Engineers on construction management and oversight, small water utilities operations and management to prepare them for future managerial and other responsibilities in the Outstations.

Engineers' Training

LMWP developed a series of specialized/intensive capacity building/training for the three (3) LWSC Field Engineers in Robertsport, Sanniquellie and Voinjama. LMWP conducted a series of trainings for LWSC engineers ranging from construction management to utilities operations and maintenance. The trainings took place in the field over a course of 60 days. The trainings included:

- PVC and DI pipe installation;
- Construction methods and practice including Quality Assurance and Project Management, Construction Management which included on site observation of construction activities;
- Household Surveying Tools and Practice including supporting the household survey conducted in the field;
- Water Systems Technical Designs, including reading and understanding technical engineering drawings and specifications specific to the CIP and mini systems under construction;
- Best Management Practices for small water systems;
- Health, Safety and Environment(HSE) In Water Facilities;
- Operations and Maintenance, Environmental Compliance, Reporting and Quality Control, specific to the mini systems;
- Outstation Water Quality Management: Basic Analysis and Quality Control, specific to the mini systems; and
- Assets Management and Software Training For Small Systems, including CUPSS orientation and training.

7.4 TASK 7 – COORDINATION WITH OTHER USAID PROGRAMS

In addition to coordination with other USAID programs, this section includes a report on coordination with other donors.

7.4.1 COLLABORATION WITH OTHER DONORS

LMWP continued coordination with other development partners notably including the AfDB Urban Water Supply and Sanitation Program (UWSSP) with regard to institutional arrangements for the management of the Outstations and development of billing systems for the systems to be constructed. LMWP also coordinated with the MCT project and others as noted below.

AfDB

The LMWP LE visited the AfDB's Kakata Project on Feb 10, 2016 to review progress and possible lessons learned that could be applied to the CIP.

On LWSC's request in November 2015, most LMWP training activities were on hold pending finalization of the Management and Commercialization Training (MCT) inception and final reports to ensure better coordination and leveraging of resources.

In February, the COP LMWP met with Mr. Niyi Laniyan of NITOKS Consultants Ltd., the entity that was awarded the MCT contract. The meeting was arranged by the UWSSP PMU Manager Gabriel Flaboe and was intended to provide the consultants with an introduction to LMWP and an

overview of the work that had been done so far by LMWP. Following the meeting, the COP forwarded most of the documents and other tools developed related to the institutional framework – including the Performance Contract between LWSC and GoL and the various MOUs signed between LWSC, the Cities, USAID and LMWP.

On March 31, LMWP along with the COR met with the AfDB Task Manager based in Abidjan, Mr. Roger Lubuga and AfDB UWSSP Manager, Mr. Gabriel Flaboe at LMWP Offices. Mr. Lubuga was on supervision mission for the AfDB funded UWSSP and wanted to touch base with USAID and other partners for better donor coordination particularly for the water sector. Mr. Lubuga encouraged and pledged better and closer cooperation between USAID and AfDB, particularly in the implementation of the water infrastructure projects with LWSC. He subsequently provided the MCT Inception Report draft in April 2016 on which LMWP provided comments and suggestions. A final report was never received.

Others

On February 24th, the COP attended a workshop organized by OXFAM at Monrovia City Hall. The intent of the workshop was to share OXFAM experiences and lessons learned in supporting both the Monrovia City Council (MCC) and LWSC in designing and implementing small scale water and sanitation improvements

7.4.2 SUPPORT TO NATIONAL LEVEL ENTITIES

Global Hand Washing Day Celebration. Through the National Water, Sanitation and Hygiene Promotion Committee (NWSHPC), on October 15, 2015, LMWP participated in the Global Hand-washing Days Celebration held in Robertsport. The theme was “Clean Hands are Strong Hands” and at the county level the focus was on hand-washing demonstrations. The event included also speeches by local authorities, drama plays, singing and picture drawing. Participants included the LMWP, the LWSC represented by the new Robertsport OIC, Aaron Ben, local county authorities and the Ministry of Health represented by the County Health Team.

Project Briefing for Newly Appointed LWSC Management Team. On November 16, 2015 the President, appointed Mr. N. Hun-Bu Tulay as new LWSC MD, replacing Mr. Charles Allen, and Mr. John Kpakolo as the new LWSC DMD-TS replacing Mr. Frankie Cassell. Consequently, on 20th November 2015, the LMWP held team a project briefing meeting with the new management to acquaint them about the project activities, challenges and expectations. It was during this meeting the new MD suggested that LMWP put on hold its Capacity Building program and coordinate with the MCT. LMWP has continued to work closely with the new LWSC management throughout the year to orient them to the project and continue progress.

LMWP/LWSC Project Coordination and Other Meetings with LWSC. Numerous LWSC meetings were planned and held this year on specific topics including the following:

- CIP Land Acquisition;
- Outstation Management Contract (OMC) signing and Implementation;
- LWSC/LSC Capacity Building Training (LMWP Y4Q4);
- New OIC for Robertsport;
- Peachtree Software Technical Assistance
- The signing of the M&E specialist evaluation report;
- The training schedule for LWSC;
- Private connection survey,
- LWSC Construction Site Engineers,
- CIP Construction Award and field visits

- CIP Oversight and LWSC field Engineers
- Development of the WSP and IWA support.

7.4.3 USAID COORDINATION INCLUDING CIP

Weekly standing meetings were held most weeks (pending USAID availability) between LMWP and USAID/Liberia. These are in addition to other meetings with LWSC and USAID arranged as needed and regular telephone and email communications including weekly reports on LMWP activities and bullet points highlighting notable LMWP events submitted to the COR.

USAID/Liberia Development Outreach & Communications (DOC) Office & Implementing Partners' Meeting. The LMWP participated in the USAID/Liberia DOC Implementing Partners' Meeting on November 4, 2015 at the US Embassy in Monrovia. The intent of the meeting was to find better ways and means of telling USAID stories on activities being implemented particularly in the information technology age.

USAID CIP. Numerous Project Coordination Meetings were held with the USAID CIP construction contractor (UIP). Summaries of the meetings with UIP and progress reports on the construction works are provided in the Construction Monthly Report submitted to USAID.

In addition to the technical meetings held with UIP by the Lead Engineers, several meetings and outreach efforts were conducted with UIP – including the following:

On April 14, 2016, LMWP formally introduced UIP and its subcontractor, SSF, to the respective LSCs in the project cities of Voinjama, Sanniquellie and Robertsport through a written communication. LMWP informed UIP that LMWP facilitated establishment of LSCs in each project city and had been working with them to assist in the development of plans for the water supply improvements, and re-establishment of local capability for the sustainable operation and maintenance of the water supply improvements in the cities. The LSCs play a key role in the sustainability of the system and are critical working with the Liberia Water and Sewer Corporation (LWSC) on the acquisition of the respective land plots for the systems to be constructed. In addition, the LSCs play an important role of community liaison as well as community outreach and sensitization. Hence, to facilitate and enhance communications, the LMWP recommend that when discussing issues of relevance to the works, UIP should invite at least three LSC members including the Development Superintendent and keep a list of attendees and minutes of the discussions.

With the construction start-up, on April 19th, the LMWP DCOP and Lead Engineer travelled to Sanniquellie and Voinjama to oversee the commencement of the works by UIP and coordinate with the LSCs. A joint meeting with UIP, LMWP and LSC were held 20th and 21st April 2016 in Sanniquellie and Voinjama respectively to enhance and strengthen the UIP and LSC relationship and coordination. The LSCs continued to provide support and assistance resolving any land or other issues that arose during the start-up of construction activities including local employment and outreach.

On May 16th 2016 a meeting was held at the UIP Head Office in Congo Town. Attendees included UIP - Alaa Youssef and Osama Khalili; and LMWP - Alioune Fall, Matt Harder and Elmos Glay. The intent of the meeting was to create understanding of the roles and responsibilities of the LSC under the USAID/LMWP particularly as it relates to their recent hiring by UIP as Community Outreach Coordinators. Though some of the LSC members will now be remunerated – something they decried for a long time – it was important to review their roles, responsibilities in this new context.

LMWP related to UIP its concern about UIP's decision to have hire LSC members without consultation with LMWP, noting the vital role of the independent LSC. In response, the UIP Country Manager, Alaa Youssef, stated that the LSCs were not hired to provide oversight on UIP construction works, but rather reiterated that the roles and responsibilities of the LSC remains virtually unchanged under the UIP/LSC arrangements, i.e., the LSCs will continue to perform their primary LSC roles. It was stressed by the UIP that the remuneration provided by UIP to the hired LSC members is to serve

as "motivation" to strengthen and/or enforce the work of the LSC. The roles and responsibilities of the LSC remains virtually/principally unchanged, notably serving as community liaison, community outreach and communication, and facilitating the works of the Contractor (UIP).

7.5 TASK 8 – PLANNING AND REPORTING

As noted above, LMWP attended regular COR meetings at USAID, coordinating and communicating project progress, constraints and planned activities. LMWP completed all technical and administrative contract deliverables including the Work Plan, Quarterly Reports, monthly construction reports, monthly sustainability monitoring reports, and others as noted above.

8.0 PROJECT MANAGEMENT AND ADMINISTRATION

8.1 STAFFING

LMWP continued to strengthen its professional capacity as well as the human capacity of the LWSC, hence, the LMWP experienced a number of staffing changes in Year 5. The staffing structure of LMWP until August 2016 is included on the organizational chart at the end of this Section. Staffing changes at the end of the project are not reflected.

TCN Resident Engineers. LMWP evaluated potential TCN Resident Engineer (RE) candidates and conducted numerous interviews starting in Year 4. Given delays in construction award, several candidates were no longer available and recruitment continued into Year 5. The first TCN RE, Roberto Acedilla arrived in Liberia in May 2016, and the second TCN RE, Victor Atiire mobilized in June 2016.

Local REs. LMWP also evaluated CVs for potential local Resident Engineers and interviewed candidates. Given the lack of qualified candidates, the recruitment process for a local Resident Engineer took much of the year and required re-advertising several times and reviewing dozens of applicants.

LWSC Seconded Construction Site Engineers. LMWP supported LWSC in the recruitment of LWSC construction site engineers to be seconded to LWSC. These staff will assure LWSC presence in the field and enhance LWSC engineering capacity and prepare LWSC for operations and management by getting them involved at the construction stage. However, during a meeting with the new management of the LWSC in November 2016, the LWSC and the LMWP achieved consensus that the LWSC will provide the LWSC Construction Site Engineers (LWSC junior engineer) for the three project cities. The LWSC requested the LMWP to provide housing and transportation allowances, while the LWSC provides the salaries for these junior engineers. During the quarter, the LWSC selected and presented the three LWSC Construction Site Engineers to the LMWP. These engineers will assure LWSC presence in the field, and prepare them for operations and management of the water improvements.

LWSC Seconded Monitoring and Evaluation Specialist (M&E). LMWP is working with LWSC to recruit and hire a Monitoring and Evaluation Specialist (M&E) to be seconded with the LWSC. The Specialist will support the establishment of the M&E unit at the LWSC in addition to assisting the LWSC in the management of the OMC. The joint evaluation process with LWSC is complete and a top candidate has been selected jointly with the LWSC; the final contract is pending.

LMWP M&E Specialist. During Q3, LMWP solicited suitably qualified Designed Monitoring and Evaluation Specialist in the areas of planning, implementation, monitoring and evaluation to ensure that USAID/LMWP's programs are effectively monitored and evaluated. The full-time Monitoring and Evaluation (M&E) specialist's duties include but not limited to the following: PMP Management (Implementation of LMWP's Performance Monitoring Plan and its management); Data Management and Reporting (Review data on the ePORT data management platform for completion, accuracy and reliability); and Special Studies and Assessment (Data collection, analysis, interpretation and advice).

The LMWP on 27th April 2016 conducted the interview and evaluation for the most suitable candidate for the post; and based on the findings on the candidate's qualifications, professional work experience and competencies, the committee recommended for hiring B. Yourfee Kamara as the

suitable candidate for the position. The LMWP completed his employment and was hired 9th May 2016 to replace Eric Lewis who resigned April 15, 2016. Unfortunately, Yourfee tendered in his resignation in June, 2016 based on personal reasons and left the project in early July. His duties were taken up by other staff and home office support for the remainder of the project.

Other Staffing Changes. The project released the BCC Specialist during the second quarter as he was not included in the budget for the OY1. LMWP instead is utilizing other staff and will work with LWSC to implement the plan that has been jointly developed by the Specialist and the LWSC counterpart who is working part time.

The Procurement and Sub-contracting Specialist was also released during the second quarter and his duties were transferred to the remaining administration and finance team.

The LMWP COP decided to demobilize early in advance of closeout in August 2016, and the Lead Engineer demobilized at the end of September. These gaps were temporarily filled by other staff and through provision of additional home office support.

8.2 PREPARATION FOR EXPANSION TO FIELD OFFICES

LMWP identified suitable building/residences in Robertsport, Voinjama and Sanniquellie that can be used for offices and accommodations. Housing visiting staff at the residence will cut down on hotel expenses while on the field, although renovations were needed to improve security and provide electricity. Predicated on the discussion between the LMWP and UIP, a consensus was achieved to share the Voinjama Office Space. A Memorandum of Understanding (MOU) was signed between Tetra Tech ARD / LMWP and the United Infrastructure Projects (UIP) to share the Voinjama Office Space to share the cost burden for the office operations. UIP and LMWP will share 50% each all the costs related to security, generator operations, fuel, and maintenance of the premises for the period through September 30, 2016.

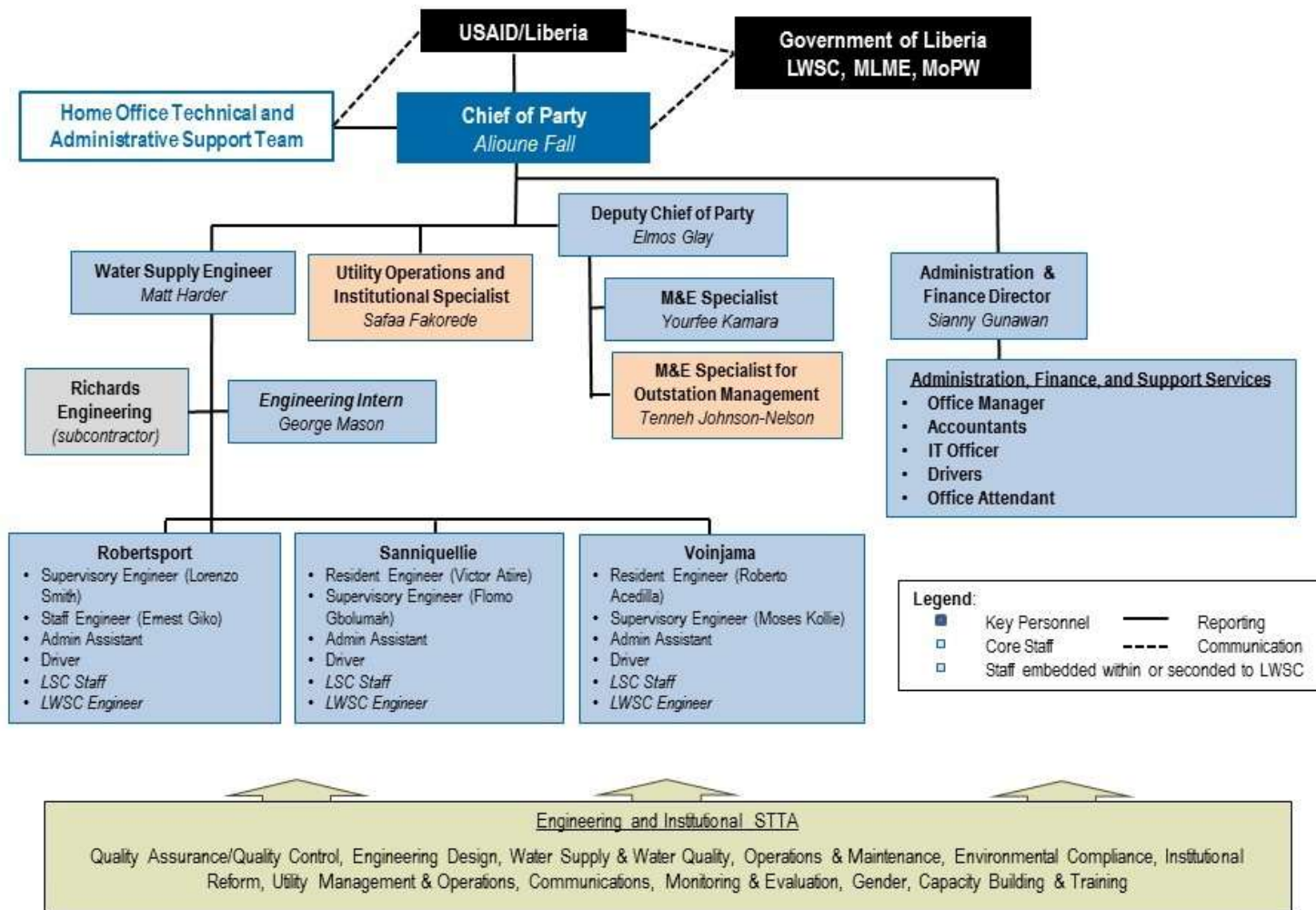
8.3 LMWP 1 CLOSEOUT AND LMWP 2 STARTUP

LMWP field activities associated with the project's role as USAID's Quality Assurance Contractor (QAC) for the Capital Improvement Project (CIP) ramped up since construction kickoff in March 2016. The three regional offices purchased and installed new office equipment, furniture and field equipment. New staff were hired and mobilized to the regional offices to support this ramp-up of activities, including Resident Engineers, administrative staff, and drivers.

Given the intensity of ongoing field activities required for Tetra Tech to fulfill its contractual obligations, notably in its role as QAC, in addition to the lack of notification on the award of LMWP II, Tetra Tech faced a challenging closeout. LMWP submitted a Closeout and Demobilization Plan to USAID in June 2016, anticipating closeout in September. A revised plan was submitted in July 2016.

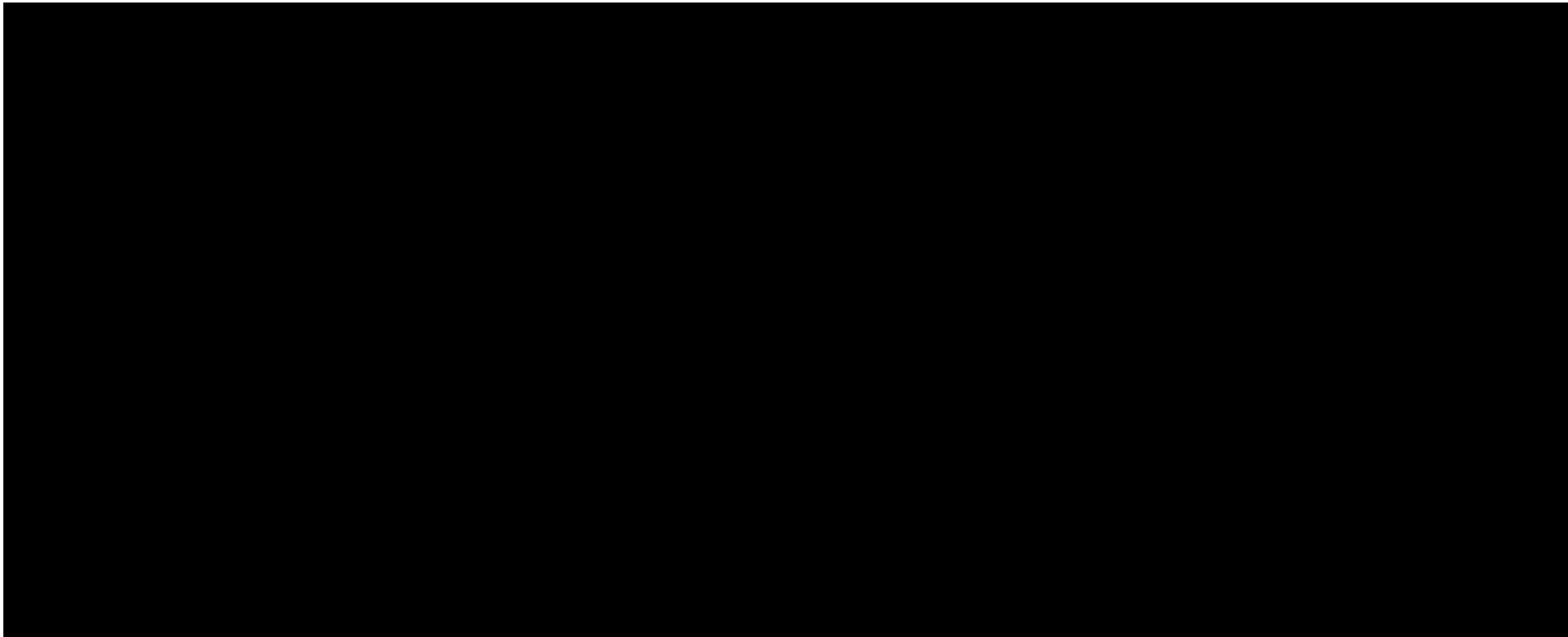
The Closeout and Demobilization Plan addressed all major areas of project closure including but not limited to: subcontracts, office and residential leases, USN/TCN and CCN staff transition and demobilization travel, file auditing, organization, packing, shipping, storage, labor law and legal issues, tax reconciliation, banking and financial matters, property disposition planning, home office and short term technical assistance to support the closeout activities, and general contract closure.

In September and October, LMWP mobilized home office support to assist with closeout. Given the award of LMWP II to Tetra Tech in early October, the startup team also supported LMWP II startup. The project's technical activities, notably construction quality assurance and operations support, continued throughout the transition.



LIBERIA MUNICIPAL WATER PROJECT ORGANIZATIONAL CHART, FY16 Q4

ANNEX A: ANNUAL FINANCIAL STATUS REPORT, Q4 FINANCIAL REPORT



ANNEX B:

LIST OF SHORT TERM TECHNICAL ASSISTANCE MOBILIZED

| Name Role | Start Date Days of LOE | Summary Achievements |
|--|-----------------------------------|---|
| Gary Forbes QSIP Trainer / Facilitator | December 6, 2015 9 Days | <ul style="list-style-type: none"> Prepared Quality Service Improvement Program (QSIP) workshop in coordination and collaboration with the LMWP team. Facilitated QSIP workshop for LWSC management personnel including QSIP Module 1 "Vision and Values" and Module 2 "Service Audit" and development of follow-on activities to be implemented by LMWP and LWSC. Supported re-orientation of the newly appointed LWSC management officials (MD, DMD Technical Services, DMD Administration, and DMD Finance). Provided copies of materials used for workshops including handouts and presentation materials and summary report. |
| Erica Dunmire M&E Specialist | June 14, 2016 2 Days | <ul style="list-style-type: none"> Provided initial orientation to LMWP's new Monitoring and Evaluation Specialist, Yourfee Kamara, including review of current PMP. Conducted review of LMWP's M&E System following USAID's Data Quality Assessment checklist. Reviewed results reported against available hard and electronic data documentation and assisted in cleaning up files and addressing some data inconsistencies. |
| Thomas Keffe Sr. Civil Engineer | Sept 23, 2016 21 Days | <ul style="list-style-type: none"> Provided overall engineering and technical leadership support to the Monrovia office and field offices. Participated in regular meetings with USAID, LWSC, and the construction contractor (UIP). Reviewed daily construction reports and provided guidance and feedback to field-based engineers; supported development of monthly construction reports; reviewed and commented on UIP shop drawing submittals, RFIs and clarifications. Supported startup, initial operations and related sustainability monitoring for the Sanniquellie and Voinjama mini-; supported LMWP team and LWSC with implementation of mini-systems O&M manual and business plans. Provided assistance with ongoing operational support and associated sustainability monitoring in Robertsport. Continued mentoring efforts and on-the-job training of LMWP and LWSC engineers. Supported Home Office closeout team with relevant issues such as inventory disposition, logistics, and scheduling. |
| Gwen Caggiano LMWP Home Office Project Manager | July 16, 2016 7.5 Days | <ul style="list-style-type: none"> Reviewed closeout plan and task checklist and calendar with project staff, identified tasks and determined roles and responsibilities as needed Provided training and guidance to project staff on closeout tasks including: settlement of outstanding financial obligations, including final payments to vendors, subcontractors, and consultants; confirm final details of all payments to project staff; reconciliation of advances to project staff for travel, per diem, or activities; hard copy file organization and preparation for shipment to the US; Reviewed electronic files data backup for home office records archives; Inventory review and guidance on disposition. |
| Gwen Caggiano LMWP Home Office Project Manager | Sept. 26, 2016 32 Days | <ul style="list-style-type: none"> In absence of COP, led or oversaw all closeout activities including: closure of all contracts and leases; release and/or transition of staff; demobilization of expatriates; organization and packing of field office files and shipment to the home office; review of electronic file data backup for home office records archives; inventory disposition; financial reconciliation. |
| David Favazza LMWP Home Office Senior Technical Advisor/Manager | Oct 12, 2016 14 Days | <ul style="list-style-type: none"> In absence of COP, provided guidance and oversight to the team, addressing completion of all technical activities and deliverables; Oversight of the contractual compliance of the LMWP contract; met with USAID and local partners to discuss LMWP closeout as well as transition to new contract; Supported overall team management during transition, particularly given absence of COP and LE in country |

ANNEX C:

LIST OF IN-COUNTRY EVENTS, COURSES AND SEMINARS ORGANIZED

| No. | Activity/Event | Location | Date of Event | Participants | | |
|-----|--|-------------|---------------|--------------|--------|-------|
| | | | | Male | Female | Total |
| 1 | LMWP Corsa Accounting System Training | Monrovia | 6-Oct-15 | 6 | 2 | 8 |
| 2 | LMWP Work Planning Training | Monrovia | 7-Oct-15 | 6 | 2 | 8 |
| 3 | Kiosk Operation Training | Robertsport | 3-Dec-15 | 14 | 7 | 21 |
| 4 | QSIP Training | Monrovia | 8-Dec-15 | 11 | 6 | 17 |
| 5 | CIP Construction QA Workshop | Monrovia | 26-Feb-16 | 6 | 0 | 7 |
| 6 | Asset Management for Junior Engineer | Monrovia | 6-Jul-16 | 2 | 0 | 2 |
| 7 | QA document review and interpretation | Monrovia | 11-Jul-16 | 2 | 0 | 2 |
| 8 | CIP Technical drawings and specs | Monrovia | 13-Jul-16 | 2 | 0 | 2 |
| 9 | Outstations Business Plans | Voinjama | 28-Jul-16 | 2 | 0 | 2 |
| 10 | Asset Management for Junior Engineer | Robertsport | 31-Aug-16 | 1 | 0 | 1 |
| 11 | Outstations Business Plans | Robertsport | 6-Sep-16 | 1 | 0 | 1 |
| 12 | Mini-system Operations | Voinjama | 9-Sep-16 | 1 | 0 | 1 |
| 13 | QA document review and interpretation | Robertsport | 16-Sep-16 | 1 | 0 | 1 |
| 14 | CIP Technical drawings and specs | Robertsport | 19-Sep-16 | 1 | 0 | 1 |
| 15 | Mini-system Operations | Robertsport | 20-Sep-16 | 1 | 0 | 1 |
| 16 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 16-Oct-15 | 8 | 4 | 12 |
| 17 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 18-Nov-15 | 9 | 4 | 13 |
| 18 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 16-Dec-15 | 10 | 4 | 14 |

| | | | | | | |
|-----------|--|-------------|-----------|----|---|----|
| 19 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 20-Jan-16 | 12 | 3 | 15 |
| 20 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 18-Feb-16 | 8 | 4 | 12 |
| 21 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 28-Mar-16 | 11 | 4 | 15 |
| 22 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 22-Apr-16 | 8 | 3 | 11 |
| 23 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 18-May-16 | 10 | 4 | 14 |
| 24 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 17-Jun-16 | 8 | 4 | 12 |
| 25 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 15-Jul-16 | 6 | 4 | 10 |
| 26 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 26-Aug-16 | 9 | 2 | 11 |
| 27 | LWSC/LSC regular M&E/project review and feedback meeting | Robertsport | 16-Sep-16 | 9 | 6 | 15 |

ANNEX D: LIST OF EQUIPMENT AND MATERIALS PURCHASED

The project history of procurements greater than USD \$500 is included on the final inventory submitted to USAID as part of closeout and is not included here.

| QTY | ARD # | DESCRIPTION | S/N | UNIT PRICE | TOTAL PRICE | VENDOR | DATE REC'D | PO/VOUCHER # |
|-----|-------|--|-----------------|------------|-------------|-----------------------------------|------------|----------------|
| 1 | 00001 | Satellite Phone Iridium 9555 with (chargers, USB cable, carrying case, earpiece, CD, and international plug kit) | 300015010736310 | \$1,310.46 | \$1,310.46 | Roadpost USA Inc | 1-Nov-11 | HO PO #1078608 |
| 1 | 00002 | Laptop Computer HP Probook 4530s | CNU1375K87 | \$555.00 | \$555.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00003 | Laptop Computer HP Probook 4530s | CNU1374ZYZ | \$555.00 | \$555.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00004 | Laptop Computer HP Probook 4530s | CNU13759X3 | \$555.00 | \$555.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00005 | Laptop Computer HP Probook 4530s | CNU13759QB | \$555.00 | \$555.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00006 | Laptop Computer HP Probook 4530s | CNU13751QN | \$555.00 | \$555.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00007 | Laptop Computer HP Probook 4530s | CNU137535G | \$555.00 | \$555.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00008 | Workstation Computer HP Z210 | 2UA12315YQ | \$1,010.00 | \$1,010.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00009 | Workstation Computer HP Z211 | 2UA123160J | \$1,010.00 | \$1,010.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00010 | Workstation Computer HP Z212(CPU) | 2UA123160S | \$1,010.00 | \$1,010.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |

| | | | | | | | | |
|---|-------|-------------------------------------|----------------------|--------------------------|--------------------------|-----------------------------------|-----------|----------------|
| 1 | 00011 | Workstation Computer HP Z213 | 2UA13405VF | \$1,010.00 | \$1,010.00 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00012 | LCD Monitor HP / Compaq LE2002X 20" | CNC1381G2X | Included with ARD #00008 | Included with ARD #00008 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00014 | LCD Monitor HP / Compaq LE2002X 20" | CNC1381G39 | Included with ARD #00010 | Included with ARD #00010 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00015 | LCD Monitor HP / Compaq LE2002X 20" | CNC1381G2Z | Included with ARD #00011 | Included with ARD #00011 | Planson International Corporation | 1-Nov-11 | HO PO #1078789 |
| 1 | 00042 | Printer HP Laserjet 2055 | CNC1805977 | \$850.00 | \$850.00 | Beever Communication Inc. | 22-Dec-11 | DV 00022 |
| 1 | 00046 | Huawei Wireless Internet Modem | 21500812338W15000596 | \$648.00 | \$648.00 | Lonestar Cell Communications | 10-Jan-12 | DV 00046 |
| 1 | 00083 | Conference Table | n/a | \$725.00 | \$725.00 | Beever Communications Inc. | 06-Feb-12 | DV 00092 |
| 1 | 00084 | Air Condition 18000 BTU Split Unit | 123050884300B5090001 | \$700.00 | \$700.00 | HOMELINE INC. | 06-Feb-12 | DV 00083 |
| 1 | 00085 | Air Condition 18000 BTU Split Unit | 123050884300B5090014 | \$700.00 | \$700.00 | HOMELINE INC. | 06-Feb-12 | DV 00083 |
| 1 | 00086 | Air Condition 18000 BTU Split Unit | 123050884300B5090005 | \$700.00 | \$700.00 | HOMELINE INC. | 06-Feb-12 | DV 00083 |
| 1 | 00087 | Air Condition 18000 BTU Split Unit | 123050884300B5090004 | \$700.00 | \$700.00 | HOMELINE INC. | 06-Feb-12 | DV 00083 |
| 1 | 00088 | Air Condition 12000 BTU Split Unit | 123032707600B1140044 | \$550.00 | \$550.00 | HOMELINE INC. | 06-Feb-12 | DV 00083 |
| 1 | 00089 | Air Condition 12000 BTU Split Unit | 123032707600B1140040 | \$550.00 | \$550.00 | HOMELINE INC. | 06-Feb-12 | DV 00083 |
| 1 | 00090 | Air Condition 12000 BTU Split Unit | 123032707600B1140047 | \$550.00 | \$550.00 | HOMELINE INC. | 06-Feb-12 | DV 00083 |
| 1 | 00091 | Air Condition 12000 BTU Split Unit | 123032707600B1140061 | \$550.00 | \$550.00 | HOMELINE INC. | 06-Feb-12 | DV 00083 |

| | | | | | | | | |
|---|-------|--|----------------------|------------|------------|------------------------|-----------|----------------|
| 1 | 00092 | Air Condition 9000 BTU Split Unit | 123023171300B5090005 | \$425.00 | \$425.00 | HOMELINE INC. | 06-Feb-12 | DV 00083 |
| 1 | 00128 | Tool Box Complete | n/a | \$550.00 | \$550.00 | Eagle Electrical Corp. | 18-Feb-12 | PO 00010 |
| 1 | 00129 | Dewatering Pump Robin PTG 210 | 0818493 | \$425.00 | \$425.00 | Eagle Electrical Corp. | 20-Feb-12 | PO 00015 |
| 1 | 00130 | Dewatering Pump Robin PTG 211 | 0818584 | \$425.00 | \$425.00 | Eagle Electrical Corp. | 20-Feb-12 | PO 00015 |
| 1 | 00131 | Dewatering Pump Robin PTG 212 | 0789858 | \$425.00 | \$425.00 | Eagle Electrical Corp. | 20-Feb-12 | PO 00015 |
| 1 | 00132 | Diesel Generator 5KVA Kama | KM2011090100756 | \$1,500.00 | \$1,500.00 | Sethi Brothers Inc. | 20-Feb-12 | PO 00016 |
| 1 | 00133 | Diesel Generator 5KVA Kama | KM2011050100222 | \$1,500.00 | \$1,500.00 | Sethi Brothers Inc. | 20-Feb-12 | PO 00016 |
| 1 | 00134 | Diesel Generator 5KVA Kama | KM20110901100618 | \$1,500.00 | \$1,500.00 | Sethi Brothers Inc. | 20-Feb-12 | PO 00016 |
| 1 | 00145 | Laptop Computer Lenovono Thinkpad | LR-9ETC012/02 | \$535.48 | \$535.48 | CDW DIRECT LLC | 29-Feb-12 | HO PO 1082003 |
| 1 | 00146 | Laptop Computer Lenovono Thinkpad | LR-9ETW4 12/02 | \$535.48 | \$535.48 | CDW DIRECT LLC | 29-Feb-12 | HO PO 1082003 |
| 1 | 00153 | Laptop Computer Lenovono Thinkpad | LR-9ETA6 12/02 | \$535.48 | \$535.48 | CWD DIRECT LLC | 21-Mar-12 | HO PO 1082004 |
| 1 | 00154 | Laptop Computer Lenovono Thinkpad | LR-9ETP0 12/02 | \$535.48 | \$535.48 | CWD DIRECT LLC | 21-Mar-12 | HO PO 1082004 |
| 1 | 00155 | Laptop Computer Lenovono Thinkpad | LR-9ETF4 12/02 | \$535.48 | \$535.48 | CWD DIRECT LLC | 21-Mar-12 | HO PO 1082004 |
| 1 | 00156 | Laptop Computer Lenovono Thinkpad | LR-9ETF2 12/02 | \$535.48 | \$535.48 | CWD DIRECT LLC | 21-Mar-12 | HO PO 1082004 |
| 1 | 00157 | CPU Workstation Computer Lenovono Thinkpad | 1S3133A8UMJHGPPV | \$585.99 | \$585.99 | CWD DIRECT LLC | 21-Mar-12 | HO PO 1082004 |
| 1 | 00169 | Flow probe FP 111 3' - 6' | 1213002422 | \$742.90 | \$742.90 | OI Corporation | 22-Mar-12 | HO PO #1082599 |
| 1 | 00189 | Projector BENQ | PD36B01423000 | \$750.00 | \$750.00 | Office Ideas | 16-Apr-12 | PO 00025 |

| | | | | | | | | |
|---|--------|---|--------------------------|-------------|-------------|---------------------------------|-----------|----------------|
| 1 | 00193 | Generator 45KVA Perkins | U267488V | \$15,160.00 | \$15,160.00 | Power Tech, Inc. | 27-Apr-12 | DV 204 |
| 1 | 00194 | Printer, Scanner and Photocopier Canon iSensys MF 4570dn | HAU06392 | \$1,049.00 | \$1,049.00 | Lion Stationery Store | 01-May-12 | PO 00030 |
| 1 | 00199 | V-SAT | n/a | \$7,673.00 | \$7,673.00 | Power Tech, Inc. | 10-May-12 | DV 252 |
| 1 | 00208 | TOYOTA LAND CRUISER LX-10 HARD TOP JEEP | JTGEB73J3C9008951 | \$47,720.00 | \$47,720.00 | KJER KJER | 13-Jun-12 | PO 0018 |
| 1 | 00209 | TOYOTA LAND CRUISER LX-10 HARD TOP JEEP | JTGEB73J2C9008407 | \$47,720.00 | \$47,720.00 | KJER KJER | 13-Jun-12 | PO 0018 |
| 1 | 00210 | TOYOTA LAND CRUISER LX-10 HARD TOP JEEP | JTGEB73J0C9008972 | \$47,720.00 | \$47,720.00 | KJER KJER | 13-Jun-12 | PO 0018 |
| 1 | 00211 | TOYOTA LAND CRUISER LX-10 HARD TOP JEEP | JTGEB73J1C9008950 | \$47,720.00 | \$47,720.00 | KJER KJER | 13-Jun-12 | PO 0018 |
| 1 | NO TAG | TOYOTA LAND CRUISER LX-10 HARD TOP JEEP | JTGEB73JOD9011274 | \$38,295.00 | \$38,295.00 | KJER KJER | 14-Oct-13 | PO 0104 |
| 1 | 00212 | Workstation Computer Lenovo | CMJLHXNK | \$1,029.00 | \$1,029.00 | ZONES, INC | 13-Jun-12 | HO PO 1084861 |
| 1 | 00213 | Workstation Computer Lenovo | 11SOA68710ZVJ6BP22S12F | \$1,029.00 | \$1,029.00 | ZONES, INC | 13-Jun-12 | HO PO 1084861 |
| 1 | 00214 | Auto CAD Civil 3D 2013 Software | 371-58713875 | \$6,538.06 | \$6,538.06 | INSIGHT | 13-Jun-12 | HO PO 1085727 |
| 1 | 00215 | Auto CAD Civil 3D 2013 Software | 371-58713878 | \$6,538.06 | \$6,538.06 | INSIGHT | 13-Jun-12 | HO PO 1085727 |
| 1 | 00216 | Monitor Screen 23"Dell Flat | CN-0855R7-72872-215-A691 | \$650.00 | \$650.00 | Office Ideas | 10-Jul-12 | PO 0043 |
| 1 | 00217 | Monitor Screen 23"Dell Flat | CN-0885R7-72872-215-AEUI | \$650.00 | \$650.00 | Office Ideas | 10-Jul-12 | PO 0043 |
| 1 | 00263 | APC Smart UPS 1500 LCD | AS12088222908 | \$557.06 | \$557.06 | CWD DIRECT LLC | 16-Nov-12 | HO PO #1088698 |
| 1 | 00282 | Bufallo Terastation Pro Duo Network Attached Storage Device | 95835320700013 | \$691.00 | \$691.00 | Plason International Coporation | 16-Nov-12 | HO PO #1087822 |
| 1 | 00283 | Printer HP Color Laserjet cp 5525DN | JPCCD8M1M3 | \$2,327.00 | \$2,327.00 | Plason International Coporation | 16-Nov-12 | HO PO #1087822 |

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|---|-------|-------------------------------------|--------------|------------|------------|---------------------------------|-----------|----------------|
| 1 | 00284 | Scanner HP Scanjet N6350 Network | CN26CCE0BD | \$800.00 | \$800.00 | Plason International Coporation | 16-Nov-12 | HO PO #1087822 |
| 1 | 00285 | Laptop Computer Dell Latitude E6520 | GW73LVI | \$1,699.00 | \$1,699.00 | INSIGHT | 16-Nov-12 | HO PO #1088695 |
| 1 | 00286 | Laptop Computer Dell Latitude E6521 | J8B3LVI | \$1,699.00 | \$1,699.00 | INSIGHT | 16-Nov-12 | HO PO #1088695 |
| 1 | 00291 | Office Chair Executive High Back | n/a | \$525.00 | \$525.00 | Lion Stationery Store | 09-Jan-13 | PO # 00068 |
| 1 | 00292 | Office Chair Executive High Back | n/a | \$525.00 | \$525.00 | Lion Stationery Store | 09-Jan-13 | PO # 00068 |
| 1 | 00322 | Conference Table | n/a | \$1,100.00 | \$1,100.00 | D&G Office Depot | 18-Mar-13 | PO # 0082 |
| 1 | 00325 | Poly Tank | n/a | \$550.00 | \$550.00 | Building Materials Center | 17-Apr-13 | PO # 0088 |
| 1 | 00351 | Laptop Computer Dell | 56KVWN1 | \$2,296.26 | \$2,296.26 | INSIGHT | 06-Jun-13 | HO PO #1095298 |
| 1 | 00363 | Ipad Model MC959LL/A | DR5KX0U2DFJ1 | \$520.44 | \$520.44 | Insight | 26-Aug-13 | HO PO #1097999 |
| 1 | 00364 | Ipad Model MC959LL/A | DR5KX15VDFJ1 | \$520.44 | \$520.44 | Insight | 26-Aug-13 | HO PO #1097999 |
| 1 | 00365 | Ipad Model MC959LL/A | DR5KX0T2DFJ1 | \$520.44 | \$520.44 | Insight | 26-Aug-13 | HO PO #1097999 |
| 1 | 00366 | Ipad Model MC959LL/A | DR5KX0W7DFJ1 | \$520.44 | \$520.44 | Insight | 26-Aug-13 | HO PO #1097999 |
| 1 | 00370 | Ipad Model MC959LL/A | DR5KX104DFJ1 | \$520.44 | \$520.44 | Insight | 28-Aug-13 | HO PO #1097999 |
| 1 | 00371 | Ipad Model MC959LL/A | DR5KX099DFJ1 | \$520.44 | \$520.44 | Insight | 28-Aug-13 | HO PO #1097999 |
| 1 | 00372 | Ipad Model MC959LL/A | DR5KX0X1DFJ1 | \$520.44 | \$520.44 | Insight | 28-Aug-13 | HO PO #1097999 |
| 1 | 00373 | Ipad Model MC959LL/A | DR5KX04LDFJ1 | \$520.44 | \$520.44 | Insight | 28-Aug-13 | HO PO #1097999 |
| 1 | 00457 | Laptop Computer Dell Inspiron 17R | J2762X1 | \$1,300.00 | \$1,300.00 | Crossword Ltd. | 24-Feb-14 | PO#006-14 |

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|---|-------------|-------------------------------------|-------------------------|--------------------------|--------------------------|-----------------------|-----------|-----------------------|
| 1 | 00458 | Laptop Computer Dell Inspiron 17R | D69SZW1 | \$1,300.00 | \$1,300.00 | Crossword Ltd. | 24-Feb-14 | PO#006-14 |
| 1 | 00459 | Laptop Computer Dell Inspiron 17R | BXMSZW1 | \$1,300.00 | \$1,300.00 | Crossword Ltd. | 24-Feb-14 | PO#006-14 |
| 1 | 00461 | Laptop Computer Dell Inspiron 17R | 9KNJSY1 | \$1,999.00 | \$1,999.00 | Crossword Ltd. | 24-Feb-14 | PO#006-14 |
| 1 | 00462 | Desktop unit Dell Optiplex 9010 | CKVC4Y1 | \$975.00 | \$975.00 | Crossword Ltd. | 24-Feb-14 | PO#006-14 |
| 1 | 00475 | Photocopier/Printer Canon 2422 | HWH03443 | \$3,500.00 | \$3,500.00 | Planet PC | 04-Apr-14 | PO#014-14 |
| 1 | 00476 | Laptop Computer HP | 5CD4100087 | \$1,275.00 | \$1,275.00 | Transend | 30-Apr-14 | PO#018-14 |
| 1 | 00477 | Laptop Computer HP | 5CD4094MQD | \$1,275.00 | \$1,275.00 | Transend | 30-Apr-14 | PO#018-14 |
| 1 | 00482 | Honda Motor Cycle | HMC-032753 | \$3,800.00 | \$3,800.00 | Thunderbird Corp | 26-May-14 | PO#017-14 |
| 1 | 00483 | Honda Motor Cycle | HMC-032753 | \$3,800.00 | \$3,800.00 | Thunderbird Corp | 26-May-14 | PO#017-14 |
| 1 | 00484 | Honda Motor Cycle | HMC-032753 | \$3,800.00 | \$3,800.00 | Thunderbird Corp | 26-May-14 | PO#017-14 |
| 1 | 00485 | Wagtech Water Testing Laboratory | WAG-WE10441 | \$13,419.00 | \$13,419.00 | Earthtime | 15-May-14 | PO#024-14 |
| 1 | 00489/00532 | Dell Optptplex 9010 Processor | FVD8HZ1 | \$915.00 | \$915.00 | Crossword | 16-Jul-14 | PO- 030-14 |
| 1 | 00490 | Dell Optptplex 9010 Monitor | CN-0XDT4K-728723AC-C9NB | Included with ARD #00489 | Included with ARD #00489 | Crossword | 16-Jul-14 | PO- 030-14 |
| 1 | 00503 | Iridium 9555 Satellite Phone | L5 21335'B06USL | \$1,209.81 | \$1,209.81 | Roadpost USA Inc | 26-Jun-14 | HO PO # 1107083 |
| 1 | 00504 | Iridium 9555 Satellite Phone | L5 21335'B06VE5 | \$1,209.81 | \$1,209.81 | Roadpost USA Inc | 26-Jun-14 | HO PO # 1107083 |
| 1 | 00516 | Thuraya TX Satellite Phone | 35697802-101218-9 | \$1,600.00 | \$1,600.00 | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |
| 1 | 00519 | TOYOTAL LAND CRUISER LX-10 HARE TOP | JTGEB73J5C9008949 | \$47,720.00 | \$47,720.00 | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |
| 1 | 00520 | Electric Winch | N/A/A | \$1,200.00 | \$1,200.00 | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |

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|---|-------------|---|-----------------|--------------|--------------|-----------------------------|-----------|-----------------------|
| 1 | 00521 | IRIDIUM Phone | 3001501630680 | not provided | not provided | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |
| 1 | 00522 | Garmin GPS Map Phone | 10F041340 | not provided | not provided | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |
| 1 | 00523 | Garmin GPS Map Phone | 10F041335 | not provided | not provided | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |
| 1 | 00524 | Garmin GPS Map Phone | 10F041339 | not provided | not provided | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |
| 1 | 00525/00625 | Solar Panel | N/A | not provided | not provided | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |
| 1 | 00526/00626 | Solar Panel | N/A | not provided | not provided | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |
| 1 | 00528 | Base Radio | N/A | not provided | not provided | Transferred from LCRP | 16-Jul-14 | Transferred from LCRP |
| 1 | 00571 | HP Lazerjet N 176n Scanner Printer and copier | CNB7FD5XO | \$750.00 | \$750.00 | Metro Stationery Store | 20-Aug-14 | PO #- 041-14 |
| 1 | 00572 | 40 Ft Containers | N/A | \$4,100.00 | \$4,100.00 | Monetco | 29-Aug-14 | PO #- 043-14 |
| 1 | 00573 | 41 Ft Containers | AMFU8456984 | \$4,100.00 | \$4,100.00 | Monetco | 29-Aug-14 | PO #- 043-14 |
| 1 | 00589 | 15 KVA Perkins Generator Silent | 12016690LPW3A27 | \$12,700.00 | \$12,700.00 | Hi Tech | 04-Oct-14 | PO #- 053-14 |
| 1 | 00592 | HP Pavillion 17.3 Laptop | 20000194906802 | \$1,250.00 | \$1,250.00 | Transend Bus Svs | 15-Oct-14 | PO #- 057-14 |
| 1 | 00593 | Dell optiplex 3020 no moni | 7HTCN02 | \$775.00 | \$775.00 | Transend Bus Svs | 15-Oct-14 | PO #- 057-14 |
| 1 | 00594 | Robertsport Field Office Signboard | N/A | \$700.00 | \$700.00 | Creative Group of Companies | 16-Oct-14 | PO #- 030-14 |
| 1 | 00595 | Sanniquellie Field Office Signboard | N/A | \$700.00 | \$700.00 | Creative Group of Companies | 16-Oct-14 | PO #- 030-14 |
| 1 | 00596 | Voinjama Field Office Signboard | N/A | \$700.00 | \$700.00 | Creative Group of Companies | 16-Oct-14 | PO #- 030-14 |
| 1 | 00597 | Afron Air conditioner-18,000 BTU | AFC 18012 | \$675.00 | \$675.00 | Naresh Brothers | 03-Nov-14 | PO # 059-14 |
| 1 | 00598 | Afron Air conditioner-18,000 BTU | AFC 18013 | \$675.00 | \$675.00 | Naresh Brothers | 03-Nov-14 | PO # 059-14 |

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|---|-------------|---|------------------------------------|-------------|-------------|----------------------------|-----------|--------------|
| 1 | 00600 | Afron Refrigerator- AFR 990 | AFR 990 | \$550.00 | \$550.00 | Naresh Brothers | 03-Nov-14 | PO # 059-14 |
| 1 | 00606 | Canon IR 2520 Scanner, photocopier and printer | HWH03536 | \$2,590.00 | \$2,590.00 | Office Ideas | 05-Sep-14 | PO # 060-14 |
| 1 | 00609 | Linksys- SMART Wifi Dual Band Wireless AC Router | 13H11607400553 | \$715.00 | \$715.00 | Transend Business Svs | 05-Sep-14 | PO # 065-14 |
| 1 | 00610 | Flow Meter | W70232-10 | \$3,901.19 | \$3,901.19 | Spree Traders | 05-Dec-14 | PO # 073-14 |
| 1 | 00611 | Linksys- SMART Wifi Dual Band Wireless AC Router | 13H11605426814 | \$715.00 | \$715.00 | Transend Business Svs | 15-Dec-14 | PO # 075-14 |
| 1 | 00612 | 22 KVA Lister Perkins Generator | GV51790U920513Y | \$14,500.00 | \$14,500.00 | G & J Group | 5-Feb-15 | PO # 001-15 |
| 1 | 00613 | 22 KVA Lister Perkins Generator | GN66044U957343W | \$14,500.00 | \$14,500.00 | G & J Group | 5-Feb-15 | PO # 001-15 |
| 1 | 00631 | Food Processor | N/A | \$500.00 | \$500.00 | African Trading Company | 13-Oct-14 | N/A |
| 1 | 00639 | Split Unit Wall Mounted Air- conditioner | AF-1866BCPA- BODO94080405N00002 | \$675.00 | \$675.00 | Naresh Brothers | 17-Mar-15 | PO # 014-15 |
| 1 | 00641 | Dell Latitude 17.3 Laptop | 1X2G312 | \$1,275.00 | \$1,275.00 | Office Idea | 24-Mar-15 | PO # 015-15 |
| 1 | 00642 | Dell Latitude 17.3 Laptop | 4F2G312 | \$1,275.00 | \$1,275.00 | Office Idea | 24-Mar-15 | PO # 015-15 |
| 1 | 00643 | Dell Latitude 17.3 Laptop | 2K2G312 | \$1,275.00 | \$1,275.00 | Office Idea | 24-Mar-15 | PO # 015-15 |
| 1 | 00644 | Dell Latitude 17.3 Laptop | 7M2G312 | \$1,275.00 | \$1,275.00 | Office Idea | 24-Mar-15 | PO # 015-15 |
| 1 | 00645 | Dell 15.6 Torchscreen Laptop | FQ2KJ42 | \$1,350.00 | \$1,350.00 | Office Idea | 24-Mar-15 | PO # 015-15 |
| 1 | 00660 | 18,000 BTU Afron Air conitioners | A06224080405W00021 | \$675.00 | \$675.00 | Naresh Brothers | 13-Apr-15 | PO #- 017-15 |
| 1 | 00669/00756 | APC Smart UPS 1500 Watts | N/A | \$800.00 | \$800.00 | Office Express | 17-Apr-15 | PO #- 020-15 |
| 1 | 00677 | HP Laserjet Pro 200 all in one printer | N/A | \$990.00 | \$990.00 | Office Express | 17-Apr-15 | PO #- 020-15 |
| 1 | 00678 | 18,000 BTU Afron Air conitioners | A06224080405W00022 | \$675.00 | \$675.00 | Naresh Brothers | 21-Apr-15 | PO #- 021-15 |
| 1 | 00679 | 18,000 BTU Afron Air conitioners | A06224080405W00021 | \$675.00 | \$675.00 | Naresh Brothers | 21-Apr-15 | PO #- 021-15 |

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|---|-------|--|--------------------|-------------|-------------|---------------------|-----------|---------------------|
| 1 | 00685 | OTT -CDT Water Level Logger | 351713 | \$3,925.00 | \$3,925.00 | Union Strong Group | 25-Jun-15 | PO # 025-15 |
| 1 | 00686 | OTT -CDT Water Level Logger | 351714 | \$3,925.00 | \$3,925.00 | Union Strong Group | 25-Jun-15 | PO # 025-15 |
| 1 | 00687 | OTT -CDT Water Level Logger | 351715 | \$3,925.00 | \$3,925.00 | Union Strong Group | 25-Jun-15 | PO # 025-15 |
| 1 | 00705 | Afron Air Conditioner split units | A06224112203W00031 | \$675.00 | \$675.00 | Naresh Brother | 28-Aug-15 | PO # 036-15 |
| 1 | 00729 | Afron 18,000 BTU Air conditioner Split Unit | A06224080405w00008 | \$675.00 | \$675.00 | Naresh Brothers | 16-Nov-15 | PO # 049-15 |
| 1 | 00730 | HP Laser Jet Color Pro Series Printer | CN51R180GX | \$990.00 | \$990.00 | Office Express | 20-Nov-15 | PO # 051-15 |
| 1 | 00744 | Electric Self-Leveling Horiz Rotary Laser Level Kit | 41100324 | \$751.45 | \$751.45 | USA Bluebook | 29-May-15 | HO PO # 1114469 |
| 1 | 00745 | Electric Self-Leveling Horiz Rotary Laser Level Kit | 41100338 | \$751.45 | \$751.45 | USA Bluebook | 29-May-15 | HO PO # 1114469 |
| 1 | 00746 | Electric Self-Leveling Horiz Rotary Laser Level Kit | 41100320 | \$751.45 | \$751.45 | USA Bluebook | 29-May-15 | HO PO # 1114469 |
| 1 | 00747 | Electric Self-Leveling Horiz Rotary Laser Level Kit | | \$751.45 | \$751.45 | USA Bluebook | 29-May-15 | HO PO # 1114469 |
| 1 | 00752 | Flow Probe Velocity Meter 5.5 -15" Handle Digital Read | 1508000972 | \$886.45 | \$886.45 | USA Bluebook | 29-May-15 | HO PO # 1114469 |
| 1 | 00753 | Flow Probe Velocity Meter 5.5 -15" Handle Digital Read | 1508000973 | \$886.45 | \$886.45 | USA Bluebook | 29-May-15 | HO PO # 1114469 |
| 1 | 00754 | Flow Probe Velocity Meter 5.5 -15" Handle Digital Read | 1508000974 | \$886.45 | \$886.45 | USA Bluebook | 29-May-15 | HO PO # 1114469 |
| 1 | 00778 | Dell Optiplex 9020 | BDFN102 | \$1,480.00 | \$1,480.00 | Metro Stationery | 15-Feb-16 | PO # 006-16 |
| 1 | 00779 | NISSAN HARD BODY PICKUP (DC) | ADNCPUD22Z0044544 | \$31,000.00 | \$31,000.00 | Transferred from GC | 15-Dec-15 | Transferred from GC |
| 1 | 00780 | NISSAN NP PICKUP NP300 | ADNCPUD22Z0046139 | \$23,000.00 | \$23,000.00 | Transferred from GC | 15-Dec-15 | Transferred from GC |
| 1 | 00781 | NISSAN NP PICKUP NP300 | ADNCPUD22Z0046198 | \$23,000.00 | \$23,000.00 | Transferred from GC | 15-Dec-15 | Transferred from GC |

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|---|-------|---|--------------------|------------|------------|---------------------------|----------------|-----------------------|
| 1 | 00784 | 3 in 1printer(photocopier,scanner and printer | RML18473 | \$3,100.00 | \$3,100.00 | SKY TECH INTERNATIONAL | MAY 13,2016 | DV 03183/PO 014-16 |
| 1 | 00785 | 3 in 1printer(photocopier,scanner and printer | RML18474 | \$3,100.00 | \$3,100.00 | SKY TECH INTERNATIONAL | MAY 13,2016 | DV 03183/PO 014-16 |
| 1 | 00793 | DESKTOP COMPUTER(DELL OPTIPLEX 3020) | 08KVY22787249JDRCI | \$1,165.00 | \$1,165.00 | SKY TECH INTERNATIONAL | MAY 13,2016 | DV 03183/PO 014-16 |
| 1 | 00794 | DESKTOP COMPUTER(DELL OPTIPLEX 3020) | 08KVY27287248MA6FI | \$1,165.00 | \$1,165.00 | SKY TECH INTERNATIONAL | MAY 13,2016 | DV 03183/PO 014-16 |
| 1 | 00795 | DESKTOP COMPUTER(DELL OPTIPLEX 3020) | 08KVY27287249QA1UI | \$1,165.00 | \$1,165.00 | SKY TECH INTERNATIONAL | MAY 13,2016 | DV 03183/PO 014-16 |
| 1 | 00796 | DESKTOP COMPUTER(DELL OPTIPLEX 3020) | 08KVY27287249QA1KI | \$1,165.00 | \$1,165.00 | SKY TECH INTERNATIONAL | MAY 13,2017 | DV 03183/PO 014-16 |
| 1 | 00797 | LAPTOP COMPUTER(DELL INSPIRON) | G4TR732 | \$1,275.00 | \$1,275.00 | SKY TECH INTERNATIONAL | MAY 13,2016 | DV 03183/PO 014-16 |
| 1 | 00798 | LAPTOP COMPUTER(DELL INSPIRON) | 8PTR732 | \$1,275.00 | \$1,275.00 | SKY TECH INTERNATIONAL | MAY 13,2016 | DV 03183/PO 014-16 |
| 1 | 00799 | LAPTOP COMPUTER(DELL INSPIRON) | H5TR732 | \$1,275.00 | \$1,275.00 | SKY TECH INTERNATIONAL | MAY 13,2016 | DV 03183/PO 014-16 |
| 1 | 00869 | CONFERENCE TABLE 1812(180x 120 CM) | N/A | \$875.00 | \$875.00 | OFFICE IDEAS | MAY 12,2016 | DV 03182/PO 015-16 |
| 1 | 00870 | CONFERENCE TABLE 1812(180x 120 CM) | N/A | \$875.00 | \$875.00 | OFFICE IDEAS | MAY 12,2016 | DV 03182/PO 015-16 |
| 1 | 00871 | CONFERENCE TABLE 1812(180x 120 CM) | N/A | \$875.00 | \$875.00 | OFFICE IDEAS | MAY 12,2016 | DV 03182/PO 015-16 |
| 1 | 00932 | AFRON AIR CONDITIONER(18000 BTU) | 6291100472109 | \$675.00 | \$675.00 | NARESH BROTHERS | MAY 16,2016 | DV 03182/PO 015-16 |
| 1 | 00933 | AFRON AIR CONDITIONER(18000 BTU) | 6291100472109 | \$675.00 | \$675.00 | NARESH BROTHERS | MAY 16,2016 | DV 03181/PO 016-16 |
| 1 | 00934 | AFRON AIR CONDITIONER(18000 BTU) | AF-W-1866BA/CPA | \$675.00 | \$675.00 | NARESH BROTHERS | MAY 16,2016 | DV 03181/PO 016-16 |

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|---|-------|---|------------------------|-------------|-------------|-----------------------------------|-------------------|------------------------|
| 1 | 00935 | REFRIGERATOR(HD-251)- SIZE B/W 5-8' TALL WITH SEPARATE CHILLER COMPARTMENT AND IN- DOOR STORAGE | D894420640115805250003 | \$600.00 | \$600.00 | NARESH BROTHERS | MAY 16,2016 | DV 03181/PO 016-16 |
| 1 | 00936 | REFRIGERATOR(HD-251)- SIZE B/W 5-8' TALL WITH SEPARATE CHILLER COMPARTMENT AND IN- DOOR STORAGE | D894420640115805260014 | \$600.00 | \$600.00 | NARESH BROTHERS | MAY 16,2016 | DV 03181/PO 016-16 |
| 1 | 00937 | REFRIGERATOR(HD-251)- SIZE B/W 5-8' TALL WITH SEPARATE CHILLER COMPARTMENT AND IN- DOOR STORAGE | D894420640115805250029 | \$600.00 | \$600.00 | NARESH BROTHERS | MAY 16,2016 | DV 03181/PO 016-16 |
| 1 | 00938 | REFRIGERATOR(HD-251)- SIZE B/W 5-8' TALL WITH SEPARATE CHILLER COMPARTMENT AND IN- DOOR STORAGE | N/A | \$600.00 | \$600.00 | NARESH BROTHERS | MAY 16,2016 | DV 03181/PO 016-16 |
| 1 | 00962 | SAMSUNG WASHING MACHINE | 0C975ABG200003 | \$650.00 | \$650.00 | HADID ELECTRONICS | JUNE 23,2016 | PO 037-16/ |
| 1 | 00963 | SAMSUNG DRYER MACHINE | 064I53AFC00006 | \$950.00 | \$950.00 | HADID ELECTRONICS | JUNE 23,2016 | PO 037-16/ |
| 1 | 01000 | Laptop - Toshiba | CC439261R | \$850.00 | \$850.00 | Ultimate Computer Solution Inc | JULY 20 2013 | NA |
| 1 | 01001 | Laptop - Dell | DV9SF32 | \$675.00 | \$675.00 | Birken Cell | JAN 15 2016 | NA |
| 1 | 01002 | Laptop - Toshiba | 2D133719Q | \$1,040.00 | \$1,040.00 | Computer Shop - Broad&Center | OCT 29 2013 | NA |
| 1 | 01003 | Laptop - Toshiba | YC203323Q | \$850.00 | \$850.00 | Ultimate Computer Solution Inc | JULY 31 2013 | NA |
| 1 | 01004 | X3 series Satellite Router (I Direct Vsat Modem) | 206026 | \$690.00 | \$690.00 | Satcom Resources | July 18 2016 | HO Purchase |
| 1 | 01041 | 30 KVA Perkins Generator | 1410100032 | \$15,750.00 | \$15,750.00 | G & J Group INC | August 31,2016 | Dv 03445/PO- 019-16 |
| 1 | 01042 | 30 KVA Perkins Generator | 1410100033 | \$15,750.00 | \$15,750.00 | G & J Group INC | August 31,2016 | Dv 03445/PO- 019-16 |

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|---|-------|--------------------------|-------------|-------------|-------------|-----------------|----------------|--------------------|
| 1 | 01043 | 30 KVA Perkins Generator | 1410100031 | \$15,750.00 | \$15,750.00 | G & J Group INC | August 31,2016 | Dv 03445/PO-019-16 |
| 1 | 01059 | Compact chlorometer kit | 04509160015 | \$1,187.25 | \$1,187.25 | Earthtime | Sept 30,2016 | PO-058-16 |
| 1 | 01060 | Compact chlorometer kit | 04509160002 | \$1,187.25 | \$1,187.25 | Earthtime | Sept 30,2016 | PO-058-16 |

U.S. Agency for International Development

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Washington, DC 20523

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Fax: (202) 216-3524

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